EFFECTS OF HURRICANE HUGO ON FOREST RESOURCES

HEARING

BEFORE THE

SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY

OF THE

COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

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EFFECTS OF HURRICANE HUGO ON FOREST RESOURCES

MONDAY, NOVEMBER 6, 1989

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY,
COMMITTEE ON AGRICULTURE,
Moncks Corner, SC.

The subcommittee met, pursuant to notice at 8 a.m. in the Berkeley County Courthouse, Moncks Corner, SC, Hon. Harold L. Volkmer (chairman of the subcommittee) presiding.

Present: Representatives Olin, Harris, and Herger.

Also present: Representative Tallon, member of the committee, Representative Spratt, and Senator Hollings.

Staff present: Joseph Muldoon, assistant counsel, Timothy P. De Coster, and Allison Biggs.

OPENING STATEMENT OF HON. HAROLD L. VOLKMER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MISSOURI

Mr. VOLKMER. Good morning. The House Agriculture Committee, Subcommittee on Forests, Family Farms, and Energy is meeting today to review the effects of Hurricane Hugo on forest resources in the Southeast.

We are pleased to be here today, although we regret the circumstances that made this hearing necessary. Our subcommittee has come at the invitation and request of Congressman Robin Tallon, a member of the House Agriculture Committee from South Carolina, to hear firsthand from the people most affected by the hurricane. The importance of this subject is demonstrated by the presence today of this large number of Members of Congress as well as the size of the audience.

Unfortunately, we are under strict time constraints this morning, because we must get back to Washington in time for votes this afternoon. We will first hear from witnesses who are on our formal schedule. Then, as time allows, it is my intent to invite others who wish to make statements to proceed to the table for that purpose.

It will be necessary for us to adjourn this hearing by 11. We may not get to everyone who wants to testify, but we will keep the hearing record open until November 20, for anyone to submit a written statement for the record. You may hand in comments to our staff today, or send them to the committee. We have at the witness table and at the table near the door a sheet with the mailing address for the committee.

Without objection, Mr. Herger's statement will be placed in the record.

[The statement of Mr. Herger follows:]

STATEMENT OF THE HONORABLE WALLY HERGER

FORESTRY SUBCOMMITTEE FIELD HEARING

CHARLESTON, SOUTH CAROLINA

NOVEMBER 6, 1989

Thank you, Mr. Chairman.

I am pleased to be here in Charleston as a Member of the House Forestry Subcommittee in order to review the damage to the Francis Marion National Forest caused by Hurricane Hugo. My northern California congressional district contains parts of six national forests, and I am fully aware of the importance of timber resources to communities which are located in timber dominated regions.

I also can relate to the feeling of catastrophe that Hurricane Hugo has brought upon those who work in and depend upon the Francis Marion National Forest. Just over two years ago, in September of 1987, lightning touched off hundreds of fires in the national forests in northern California. These disastrous forest fires eventually consumed over 700,000 acres of timber, 400,000 of which were in my congressional district. I remember the feelings of fear and helplessness that are suddenly brought on by nature's powerful and sometimes destructive forces.

Besides the immediate alarm over the potential for loss of life or property that comes with catastrophes of this nature, the destruction of federal resources also has a long-term effect on the communities which depend heavily on them for economic stability. The 1987 forest fires burned nearly 2 billion board feet of federal timber throughout northern California. The loss of such a large volume of timber translates into considerable

financial hardship for the county governments which depend heavily upon federal timber receipts for basic revenues. The estimated decline in timber receipts to California counties due to the fires is $32 million, or 15 percent of total receipts, over the three year period from fiscal year 1988 to 1990. Essentially, it is accurate to state that the damage caused by the distastrous fires of 1987 have had, and will continue to have, a substantial long-term impact on the people of the surrounding communities. Likewise, the impact of Hurricane Hugo will have a recognizable long-term impact on the people of the Charleston area due to the extensive damage sustained by federal resources.

I believe that it is important for Congress to carefully assess incidents of extensive damage such as we will see here today. Moreover, it is also important for Congress to provide leadership in efforts to mitigate the effects of such disasters. I have introduced legislation which would, among other specific measures directly related to forest fires, establish a national task force to develop recommendations to the Secretary of Agriculture regarding federal efforts to provide for the effective and efficient recovery of communities affected by natural resource disasters. While the forum provided for in this legislation was developed with forest fire disasters in mind, any recommendations developed by the task force for the recovery from the loss of timber resources would be wholly applicable to the damage done by Hurricane Hugo to the Francis Marion National Forest.

With these thoughts in mind, I look forward to hearing the testimony of the witnesses before us today.

Mr. VOLKMER. At this time, I would like to yield to the gentleman from South Carolina for a statement. He has told me about the severity of the damage and there is no question about it from what little I have seen of it right now. At this time, I would like to introduce our friend Robin Tallon.

OPENING STATEMENT OF HON. ROBIN TALLON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF SOUTH CAROLINA

Mr. TALLON. Mr. Chairman, thank you very much. I, too, have a statement I would like to submit to the record. In the interest of time, I will summarize it. Certainly, I want to thank you for your interest and your interest since the hurricane. Also, I would like to welcome Mr. Herger from California, Mr. Olin from Virginia, and Mr. Harris from Alabama and, of course, my colleague from South Carolina John Spratt. Arthur Ravenel also has representatives here in the audience this morning.

I am very pleased with the interest shown here today. We are going to hear firsthand from the Forest Service, representatives from different segments of the timber industry, from foresters to large timber companies and small wood lot owners and related businesses and individuals who have been impacted by this terrible disaster.

As the chairman said, we are operating under very strict time constraints because we are having to get back to Washington to vote. I believe he has agreed that anybody who we are not able to hear from orally this morning, that their written testimony would be allowed to be part of the permanent record of these proceedings.

Frankly, for a few hours September 27, Hurricane Hugo ravaged enough pine trees to build 430 houses or print almost 8 billion National Geographic magazines that affected an area of North and South Carolina of 400 million acres. I have some very serious concerns and I've talked to many of you over the past 6 weeks. Again, I am just pleased to see that we have Members of Congress here to see firsthand the damage, to hear your concerns so we will know how to respond.

A particular concern of mine is an expansion of the Forestry Incentive Program that will allow us to get back in and reforest and replant the resource and at the same time the debris cleanup. It really looks like to me, Mr. Chairman, that we could potentially have a powder keg that could go off, igniting forest fires in the whole southeastern part of South Carolina, and that is why we have introduced legislation to provide a cost sharing program or establish a cost sharing program with the Federal Government to assist us in reforestation and also debris removal.

Another grave concern of Congressman Spratt—he has shared this with me and I have joined in cosponsoring legislation that would allow us to look at the tax consequences when you have lost a mature stand of timber. Under present law, under a casualty business loss write off, you can only expense the initial investment in planting those pine trees. We understand those timber stands are used by many people to finance their whole farming operations to buy seed, to buy fertilizer, and to borrow money. Now, that resource is gone. Certainly we would like to enact legislation and I

have been working with Congressman Spratt on that to allow us to use the actual value of the timber stand or the appraised value in determining casual loss. This is something that we might talk about this morning, how we could establish by appraisal or whatever means the actual value or actual economic loss incurred.

Mr. Chairman, again I just thank you for being here this morning. Your sensitivity is deeply appreciated, and the other Members of the Committee, we appreciate it very much. And I thank you for holding this hearing.

[The prepared statement of Mr. Tallon follows:]

PREPARED STATEMENT OF HON. ROBIN TALLON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF SOUTH CAROLINA

Mr. Chairman, Mr. Herger, Mr. Olin, Mr. Harris, welcome and thank you for coming. The fact that you're here shows that you care about the well-being of the people of South Carolina and the health of our forests.

I'm pleased in the interest shown today. We're going to hear first from the Forest Service and representatives of different segments of the timber industry from the foresters, to the large timber companies to the small woodlot owners to related businesses.

Following that in the time permitted we'll hear from private timber owners. We all appreciate your willingness to be here and participate.

Because we have votes today, we're going to have to conclude around 11:00. Please know that even if you don't testify vebally, your written testimony willbe made part of the record and considered in deliberations by the Committee.

I also want to thank the County officials here in Berkeley County for their cooperation and interest.

Almost two months ago, this area was devastated by the worst storm of this century.

By now the rest of America knows that Hurricane Hugo ploughed through South Carolina leaving in its wake complete destruction and chaos.

We've had a half million people displaced, a quarter of million out of work, and damage to physical property exceeding $4 billion.

That's not taking into account the effects on agriculture, tourism and daily increases in clean up costs.

It will take us years to recover.

But, as the people of South Carolina begin the long, painful process of piecing their lives and belongings back together, it has become clear that one of the greatest casualties was our forests.

Hugo prematurely harvested over three years worth of South Carolina's timber - the state's largest cash crops.

It left over 6.5 billion board feet of saw timber on the ground.

For a $4.3 million industry this sort of damage is crippling for the entire state economy.

One observor from Berkeley County said, "It looks like a giant waked through the forest and broke off trees. Trees 30 inches in diameter are snapped like twigs."

And unlike other crop producers, timber farmers have no substantial federal assistance program to fall back on.

For agricultural producers of program and non-program crops there are a number of federal farm assistance program available.

The Disaster Assistance Act of 1989 provides disaster assistance payments to farmers who suffered losses in production due to damaging weather included hurricane.

As well, the Farmers Home Administration has low interest emergency loans for loss of farms and equipment.

But the timber farmer is largely left to his own resources.

This is bad news for those concerned about the production and conservation of the four million plus acres affected by Hugo.

That's why I, along with members of South Carolina's delegation introduced legislation to set up a cost sharing program for the clearing and reforestation of timber acreage damaged by Hurricane Hugo.

This program will encourage tree owners to reestablish their damaged stands by assisting in the reforestation of damaged stands, site preparation, and other necessary timber stand reestablishment.

Our bill provides $100 million for this program and assumes 75 precent of the cost of implementation for private timber stands of 1000 acres or less and 50 percent of private stands over 1000 acres.

This program is modeled on the Forestry Incentive Program which has been extremely effective in encouraging reforestation but which if funded at current levels would take 111 years to reforest South Carolina.

As well, my colleague Mr. Spratt joined by the rest of us in the South Carolina delegation introduced legislation allowing for tax deductions for a casulty loss at market value rather than limiting losses to the amount paid when the trees were planting.

And today, I hope we can begin to tackle the other problems such as forestfires, the current market glut, and the Forest Service's role.

We all know that timber is a costly, long-term investment. Most of South Carolina's small timber owners simply don't have the means to replant damaged and destroyed stands.

The result will be a severe blow to our national conservation efforts and to South Carolina's economy.

This country has spent millions promoting conservation in the West, the Amazon and other areas around the world.

We need to turn our eyes back to South Carolina, North Carolina, and Puerot Rico and help restore one of this nation's most important natural resources - her forests.

Mr. Chairman, you have been extremely responsive in bringing this hearing here. On behalf of the timber interests of South Carolina, thank you.

Mr. VOLKMER. All right. We also have with us another member of the South Carolina delegation, who, although not a member of the Agriculture Committee, has been working ever since the hurricane to try and bring about some assistance down here and I would like for him to make an opening statement at this time, and that is our good friend John Spratt.

Mr. SPRATT. Thank you, Mr. Chairman. In the interest of time, I will not make an opening statement. I want to thank you and the full subcommittee for coming here.

The damage to timber in this area and throughout the swath cut by Hurricane Hugo is just beyond description. There is no way to fully appreciate it without seeing it and I am glad you are here to see it.

Thank you all for coming. I will look forward to the testimony of the witnesses today.

Mr. VOLKMER. Thank you very much, John. With that, we will start with the first panel. Mr. Allan J. West, Deputy Chief, State and Private Forestry from the U.S. Forest Service, Department of Agriculture, Washington, D.C. and he is accompanied by Mr. Jack Alcock, Regional Forester of Atlanta, Georgia; Mr. Tom Ellis, Station Director, Southern Forest Experiment Station from New Orleans, Louisiana; Mr. J. Lamar Beasley, Station Director, Southeast Forest Experiment Station, Forest Service at Asheville, North Carolina; and Mr. Donald W. Eng, Forest Supervisor, Francis Marion and Sumter National Forests, Forest Service, USDA, Columbia, South Carolina.

Mr. West, we have received a copy of your testimony. You may either review that testimony in full or summarize, however you so desire, but your testimony will be made a part of the record. You may proceed.

STATEMENT OF ALLAN J. WEST, DEPUTY CHIEF, STATE AND PRIVATE FORESTRY, FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE, ACCOMPANIED BY JACK E. ALCOCK, REGIONAL FORESTER, FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE, ATLANTA, GA; J. LAMAR BEASLEY, STATION DIRECTOR, SOUTHEASTERN FOREST EXPERIMENT STATION, FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE, ASHEVILLE, NC; AND DONALD W. ENG, FOREST SUPERVISOR, FRANCIS MARION AND SUMTER NATIONAL FORESTS, FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE, COLUMBIA, SC

Mr. WEST. Thank you, Mr. Chairman. I will just summarize our testimony and I appreciate the opportunity to testify on the part of the Department of Agriculture today.

I will summarize the Forest Service's participation in the relief efforts following Hurricane Hugo and the damage done to Federal, State, and private forest resources. And as you have mentioned, we have with us Jack Alcock, Lamar Beasley, Tom Ellis, and Don Eng to respond to any questions you may have.

Thankfully, no Forest Service employees received personal injuries during the hurricane but primarily this was because of a lot of preplanning that we do for emergency events. However, there was significant loss of facilities, equipment, and supplies, but even in

that case it was not as high as it could have been because of the preplanning.

The Forest Service is proud that we have been able to apply decades of emergency management experience to the problems that were caused by Hurricane Hugo. We were able to provide basic services, equipment, and technical assistance that allowed the local, State, and other Federal agencies to fulfill their emergency roles.

In South Carolina, the Forest Service offices were first to reopen after the storm and these offices often provided a focal point for other agencies trying to establish emergency operation. I think this was especially true in McClellanville where Forest Service crews cleared city streets, provided potable water, and helped reopen a doctor's office and pharmacy to restore basic medical services. At a time when most of the attention was on the larger cities, the Forest Service was fulfilling its responsibility and commitment to the aid of rural communities.

Now that the initial emergency has passed, we are focusing on the damage to forest resources and facilities. The brunt of the storm struck the forests of Puerto Rico and South Carolina, but serious damage was done to forests through the entire path of Hugo from the Virgin Islands to Virginia.

In South Carolina, the people suffered one of the greatest losses of natural resources in recent U. S. history. The South Carolina Forestry Commission puts the total timber loss at 6.7 billion board feet. The 250,000 acre Francis Marion National Forest absorbed the full measure of Hugo's violence. Almost three-fourths of its sawtimber stands sustained heavy blowdown. The total volume of damaged timber is between 700 million and 1 billion board feet with a total value of nearly $100 million. This forest was a significant source of raw material for eastern South Carolina's timber industry, and a major source of local employment. Its loss will have serious long-term economic impacts on the area.

Our first major concern on the Francis Marion is the salvage harvest of trees that were uprooted or broken by the hurricane. We believe that only 25 to 30 percent of the national forest blowdown—approximately 250 million board feet can be salvaged. To date, we have advertised 50 million board feet, and another 20 million board feet will be offered today.

Southern yellow pine begins to degrade rapidly after damage. Salvage is important for three reasons:

First, the blown down timber is already a significant fire hazard that will become extreme next spring. The danger will continue for several years. Given the intermingled nature of public and private lands, this downed timber poses a severe threat to life and private property.

Second, this increased threat of catastrophic fire risks further damage to the remaining colony of the red-cockaded woodpecker.

And third, the downed trees represent a high potential for insect and disease build-ups that could threaten the forest that remains.

We are aware of the concerns about the effects of national forest timber on the price received by private timber owners. Also concerns for future timber supplies after salvage is completed. We are cooperating closely with the entire forestry community in South

Carolina to deal with these problems. Forest Service personnel are active members on the utilization committee of the Governor's Forest Disaster Salvage Council. We believe that timber salvage is in the public interest, and we will work with all those involved to see that it proceeds in an orderly and expeditious manner. We have determined that it is possible to store up to 80 million board feet of wood chips and logs. This timber could then be made available to local industry over the next 2 years.

A major concern is the fate of the 6,100-acre Santee Experimental Forest where research has been underway for the last 50 years. Current studies address a variety of problems ranging from finding ways to assure survival of the red-cockaded woodpecker to determining the long-term effects of prescribed burning on forest productivity and composition.

Nine extensive long-term experiments were underway on the Santee. Some under continuous management and observation for several decades. In a matter of hours, most of the field plots were in shambles, and the field station laboratories and facilities badly damaged.

The third major concern is the impact of Hugo on wildlife habitat. Many species are severely impacted. This is particularly true for the red-cockaded woodpecker, a federally listed endangered species.

Prior to Hugo, the Francis Marion Forest supported one of the largest populations, about 25 percent of the total population on national forests in the South.

This large increase in woodpecker population has been decimated by Hurricane Hugo. This represents a loss of cavity trees, loss of cavity replacement trees, and loss of foraging habitat. We are taking action to protect as many surviving birds as possible and stabilize the population. Immediate action could mean the difference between losing 70 percent of the population or possibly saving 60 percent of the population.

An emergency response team is installing artificial cavity boxes and excavating new cavities in broken snags and remaining trees.

The damage on the Francis Marion also includes extensive damage to administrative sites, roads, bridges, and other facilities.

Other damage occurred to the national forests and research sites throughout the national forests in North Carolina. Major landslides closed roads and blocked streams in very difficult, steep terrain.

Similar damage occurred on the Jefferson National Forest in Virginia, especially near Mount Rogers National Recreation Area where several streams caused substantial bank erosion. Recreation facilities, trails, shelters and bridges along the Appalachian trail were several impacted by high water and falling trees.

In all of these areas from the Caribbean to Virginia, the damage to Federal resources and facilities is only a fraction of the damage to State and private resources. The losses to individuals and communities and damage to the environment are difficult to comprehend. It will take years to rebuild the cities and rural communities. It will take decades to restore our forest resources.

Annually, South Carolina harvests about 2.2 billion board feet of timber. This provides 40,000 jobs and contributes $4.3 billion to the economy. Timber is the State's largest cash crop, supply raw mate-

rials to the third largest industry in the State. Hugo damaged or destroyed an estimated 6.7 million board feet of timber, or more than three times the normal annual harvest with an estimated value of over $1 billion in forest products.

Because much of the forest is an impenetrable mess of broken trees, the potential for forest fires may become unparalleled in the South and poses a widespread threat to homes and wooded communities. Wildfire prevention, detection and suppression is now—and will be for several years—complicated and extremely difficulty.

State forestry agencies and the forest industry depend on the Forest Service for accurate information, research, and technical assistance. The periodic forest inventories conducted by the Southern and Southeastern Forest Experiment Stations are the only source of detailed information and analysis about the forest resource situation. A reinventory of the 23 damaged counties in South Carolina is urgently needed, and plans are underway to complete this job as quickly as possible. In addition to the inventory information, which will tell us how the resource base has been affected, we need to know what will happen to timber prices, now and in the future, and how they will affect forestry investments. The Forest Service will utilize its professional staffs to help in any way we can. We are committed to help private landowners and State and local governments with both research and technical assistance for as long as it is needed.

I need to say that we appreciate the excellent cooperation of other Federal agencies like the Fish and Wildlife Service, Soil Conservation Service and the Federal Highway Administration. We also appreciate the strong cooperation of the State of South Carolina and especially Acting State Forester Jack Gould.

This concludes my prepared testimony and we will be pleased to answer any questions that you may have.

[The prepared statement of Mr. West appears at the conclusion of the hearing.]

Mr. VOLKMER. Thank you very much, Allan.

Have you identified by assessment exactly all that needs to be done in the area that has been devastated?

Mr. WEST. We have done a complete assessment of all damage for all types of forest resources and facilities, research throughout the path of Hugo from the Virgin Islands to Virginia.

Mr. VOLKMER. Now, that includes not only removal but cleanup of all debris, fire situation, everything then?

Mr. WEST. That is correct.

Mr. VOLKMER. What is the total cost of all of this—including, if you have done it—including the Caribbean problem also as far as 1990 is concerned?

Mr. WEST. The total amount which the bulk of it will be in 1990 is about $243 million for all clean up of State and private aspects, fire, and so forth, of which about $146 million will be needed in fiscal year 1990.

Mr. VOLKMER. How much is available already in the regular appropriation?

Mr. WEST. We have made some shifts. We have shifted emergency about $4 million right now so we can get on with the work. We

have also requested $22 million from the contingency and the continuing resolution to continue on with this work.

Mr. VOLKMER. But we are real short though from what you are telling me?

Mr. WEST. That is correct, to do the complete job. We have a complete breakdown and we will make that available to the committee.

Mr. VOLKMER. You cannot do that with your current budget?

Mr. WEST. There is no way if we carry out important programs that we already are scheduled to do.

Mr. VOLKMER. Now, you say most of that is in 1990. How far out does it go?

Mr. WEST. Our program runs us out to fiscal year 1992, and this is for continuing things that need to go on primarily in the management of the national forest. Reforestation will go on beyond that.

Mr. VOLKMER. Now, that leads me into my last question. We will let the others ask question. Because I know we need to do all of this first but I also look to the future and if we have 75 percent of our national forest lands and quite a bit of the private State gone down, and it takes a minimum of 35 years for the southern pine to reach maturity, what production will we have 3, 4, 5, 10, 15, 20, 25 years from now?

Mr. WEST. That is one of the reasons that we need the inventory to determine that. Let me ask Regional Forester Jack Alcock if he would like to respond to that.

Mr. ALCOCK. Good morning, Mr. Chairman.

Mr. VOLKMER. Good morning, Jack.

Mr. ALCOCK. I think an honest answer is that we do not know very precisely what the effect will be of this storm. We know it is going to be significant. Probably the harvest level on the Francis Marion is going to decrease possibly as much as by a half. But we really will not know until we have completed a new inventory, and then put that inventory information through a revised land management plan for the Francis Marion. And then we will be able to have a more precise answer to that. Right now all we know is we have suffered very serious damage to the forest and that it will have a long term effect both on our ability to supply timber to the private market and also to sustain the 25 percent fund payments to the local counties.

Mr. VOLKMER. Thank you. At this time, I will yield to the gentleman from California, for any questions you may have.

Mr. HERGER. I have no questions.

Mr. VOLKMER. The gentleman from Virginia.

Mr. OLIN. Thank you, Mr. Chairman.

I am anxious and I know the whole committee is anxious to really understand the extent of the damage but beyond that to understand what are the critical things that have got to be taken care of here to recover. As I picked up your testimony so far, Allan, that certainly the protection from potential fire damage would rank very, very, very, very high both in the national forest and the private sector. Beyond that, you are short of money to do what needs to be done, and you need an inventory of where you stand.

Could you—or maybe the others that are with you—list what you consider to be the other major issues that need to be dealt with here in the coming months and get started, including some comments about the reforestation program?

Mr. WEST. I will have Mr. Alcock and Mr. Beasley respond to that.

Mr. ALCOCK. Congressman Olin, our first priority here right at the moment is to salvage as much of the timber that is on the ground as we possibly can both because we want to see it utilized—it is some of the finest timber in the South—but probably equally important to try to reduce the loading of fuels from forest fire standpoint.

As the chairman pointed out, we are sitting on a powder keg here. I believe it is the worst that I have seen in my career in terms of its potential. We have actual threat to at least a dozen communities here in South Carolina, small communities where the heavy fuels run right up to the borders of these small communities. And we know we are going to have fires. This country has traditionally burned.

So two top priorities; to salvage as much timber as we can and then to take care as best we can of what we believe is a very explosive fire situation.

Beyond that, we do have facilities that were either completely destroyed or heavily damaged in terms of offices and recreational facilities. We have, as Mr. West described, a concern about endangered species as well as other wildlife concerns.

And we also have longer term concerns about bringing these lands back into production, and that is a cooperative effort that we propose to do not only on national forest land but also through cost sharing with private owners who desperately need the help. Many of the private owners have no way of insuring themselves against this kind of a disaster. And, therefore, every bit of investment that they have put forth over several decades is now gone in a matter of hours. And it seems only fair to me that lacking appropriate avenues for insurance that we now help them through cost sharing assistance.

Mr. OLIN. Did you want to speak?

Mr. BEASLEY. Yes, Mr. Chairman.

Mr. OLIN. Go ahead.

Mr. BEASLEY. In terms of Forest Service research in South Carolina, there are a number of areas in which I think we could be very responsive. One is that we do have the responsibilities, working in cooperation with the State and others, to conduct the forest inventories. I think that is essential to get this basic information in front of the policy and program managers.

The second is the response we have already made in the interim to try and protect what populations of the red-cockaded woodpecker we have, and some of the short term tactics that we can take in doing that. Some of that work is already underway but considerable more work is needed.

The third item is to reestablish our Santee Experimental Forest, the 6,100 acres. Over half of it needs to be regenerated. We had nine existing studies destroyed. We propose to put four of the old studies back in place.

There are a number of research needs that I think we can contribute to in the future. One is a series of economic studies, dealing with what would be the effects on employment, forest product industries, and the local economy as a result of the storm. And then another series of research efforts dealing with fire, insect and disease susceptibility. The effects of catastrophic events such as this on ecosystems along the coastal plain. This would apply not only in South Carolina but it would be useful throughout the South. And, then research dealing with log storage, storage techniques, and similar things like that. That would be the highest priority items for Forest Service research.

Mr. OLIN. Thank you. I would like to ask one more question in the interest of time. Has there yet been a get together between the national Forest Service, the State of South Carolina, and the principal private interests for the purpose of assessing and coordinating actions that will need to be taken in the future?

Mr. ALCOCK. There has been a great deal of work already done in that area. I would not sit here and pretend that it is all completed but through Governor Campbell's Salvage Council and under the direction of State Forester Jack Gould, who I understand you will hear from here, all of these needs that we have identified have been coordinated both with the state and where appropriate, with other federal agencies as well.

Mr. OLIN. Do you anticipate that the national Forest Service people will play a strong role in assisting the total process as well as looking after your own acreage?

Mr. ALCOCK. Yes, sir, through State and private forestry programs, we have a long tradition of working with the State forester and others, and we would hope to continue that as we go about trying to repair the damage done by this storm.

Mr. OLIN. We would be quite interested in continuing to get input from you as to what contribution you can make to improve the total recovery both in the Federal lands as well as the State and private. Thank you very much.

Mr. VOLKMER. Now, I recognize the gentleman from Alabama.

Mr. HARRIS. Thank you, Mr. Chairman. Of the money in the bill that we passed the other day, Allan, will you be getting the other—you say you got $27 million now that has been made available?

Mr. WEST. No. We have requested reprogramming authority of $4 million, and then out of the continuing resolution, there was about $250 million available for Hugo and the San Francisco earthquake. We requested $22 million of that but that money is not forthcoming yet.

Mr. HARRIS. I understand you said you needed $146 million at least for your assessment now for 1990?

Mr. WEST. That is correct.

Mr. HARRIS. And you have only requested $23 million?

Mr. WEST. This was for the emergency, the immediate emergency funding that we requested at this time. We are making all of the materials on the assessment and the needs available though so that that is well known.

Mr. HARRIS. All right. One thing, in your assessment you mentioned log storage and that is of interest to me. Of course, there would be a certain amount of cost involved in that. Was that part

of your assessment, the cost that would be involved in either storing them under water or a continuous sprinkle.

Mr. WEST. We have a cost estimate. Let Mr. Alcock tell you exactly what they did on that.

Mr. ALCOCK. The strategy that has been developed here in South Carolina by the Governor's Salvage Council which we participate in basically calls for trying to process about a third of the material that is on the ground or damaged, to export to other States about a third, and to try to store a third. And we are tied in with that overall strategy and there are dollars in there where we would attempt to salvage and store in a number of ways, both underwater in ponds, sawing into cants which store better once the bark is off of it as well as under sprinkler systems.

Truly, Mr. Harris, we have never taken on a project quite this big so we do not actually know precise costs on this but we believe that if we can put a lot of this material in storage for 2 years or underwater for as long as 5 to 7 years, we have a chance to stretch out the raw material supply here which is going to be in critical need. We have kind of a glut right now but we can see a shortage coming up in the future.

Mr. HARRIS. Not only that but the glut in the market is going to lower the price.

Mr. ALCOCK. Yes, sir, that is true. So we believe, even though as you point out it is expensive to put it in place, we believe that in the long term, that the expense is justified in trying to store as much of this high quality material as we possibly can.

Mr. HARRIS. And even with that, as I understand it, on the forest you said you thought that you could only salvage about 25 or 30 percent?

Mr. ALCOCK. That is correct. That is true.

Mr. HARRIS. Thank you, Mr. Chairman.

Mr. VOLKMER. The Chair recognizes the gentleman from South Carolina.

Mr. TALLON. Mr. Chairman, thank you. Gentlemen, I appreciate your testimony here today.

It does seem to me as we look at tremendous problems, this debris cleanup and reforestation is one that we need to address immediately. We have introduced legislation—and I talked, had an opportunity to discuss it again last night with the chairman—to provide for a cost-sharing program with private timber owners with the Federal Government picking up 75 percent of that, a $100 million program. Now, the $100 million we got from estimates by ASCS. We went back to the Forestry Incentive Program and it would take us, according to figures we were able to put together, 111 years to reforest just our timber losses with our current allocation there. I would just like for you to comment on how important this legislation might be and also it seems to me that it is very time sensitive when we are talking about the danger of forest fires. And, of course, one of the things the chairman and I talked about last night was our schedule in Washington and adjournment and the problems that we are going to run into. But first of all, comment on the legislation and also how critical is it if we are going to provide federal assistance for debris cleanup, does it not need to be done immediately.

Mr. WEST. Yes. We are aware of the piece of legislation that you submitted, Congressman Tallon. We agree with you that it is something professionally that needs to be done and done very quickly. I cannot give you a position on that yet. We have not got to that point but professionally there is a need to move the debris, reduce the fire hazard, and get the land reforested.

Mr. TALLON. If I could get back to the impact of Federal timber and the price on the market as far as private timber is concerned, can you tell me how the timber from the Francis Marion National Forest, what kind of impact it would have on private timber as it comes on the market.

Mr. WEST. I will ask Forest Supervisor Don Eng from the Francis Marion to give a response to that.

Mr. ENG. To date, we have offered for sale about 50 million board feet of sawtimber. Two-thirds of the timber we have offered has not sold mainly because of the large quantities that are on the market and some of the logging restrictions we have on national forest lands.

The purchasers that are logging national forest lands now are mostly out-of-State loggers. They have come from as far away as Texas. So as far as our impact on the State logging resources to date, it has been minimal.

Mr. TALLON. Don, have we looked at the possibility of exporting this timber?

Mr. ENG. We are looking to the extent that we can. We are really not in the export business ourselves, but any export markets we would surely be interested in.

Mr. TALLON. I talked to Dale Robertson 2 or 3 days after Hugo, had a long conversation about the possibility—and followed up with a letter—about the possibility of exporting some of this timber here. And, of course, we have problems with some of that on the west coast, the restrictions by law, but I was advised we do not here, and also Mr. Robertson discussed the possibility of shipping some of this timber possibly out of the Port of Charleston and up the Mississippi to get it in other areas of the country. I hope these are things that we are looking at to certainly be as sensitive as we possibly can to the private timber owner and the prices they are trying to get as they salvage what they can from their timber stands and also certainly to protect the taxpayer and the Federal interest as far as the price of this timber. I just hate to see it sacrificed for a fraction of what it is worth.

Mr. ENG. The Governor's Disaster Salvage Committee is working on all types of markets and later on Scott Wallinger and others will be discussing that more fully.

Mr. TALLON. Well, we thank you very much, Don.

Mr. VOLKMER. I also recognize the other gentleman from South Carolina for any questions you may have.

Mr. SPRATT. Thank you, Mr. Chairman. You mentioned about a third of this timber can be stored. That is about 80 million board feet. What are the determinants of how much you can store? Is it cost, is it space? Are there other determinants?

Mr. ENG. Basically it is availability of locations and water sources. The Francis Marion has a high percentage of the land that is only a few feet above the water table. It is difficult to store logs

during certain times of the year. We do not have any large water storage facilities. We have a few gravel pits that are 2 or 3 acres in size. We have one or two small lakes which we are contemplating using. But putting in sprinkler systems would be a major undertaking.

Mr. SPRATT. Is that the problem, the cost of installing the sprinkler, the space available? Precisely what are the determinants? You have arrived at a figure 80,000 board feet. What determined that capacity?

Mr. ENG. We brought in a group of experts in the field and they said we had the potential to store up to between 40 and 50 million feet of logs and the rest would be storage of chips.

Mr. SPRATT. Now, what was that potential based upon?

Mr. ENG. Possible site locations and water availability.

Mr. SPRATT. Were these site locations on the Francis Marion National Forest?

Mr. ENG. Yes. We are talking about on-site locations on the national forest.

Mr. SPRATT. Within your own boundaries. Is there a possibility the State or the public service authority, or other agencies might make available lands where you could store this timber?

Mr. ENG. Yes.

Mr. SPRATT. Is that a possibility?

Mr. ENG. Yes, however, not only is the Forest Service looking at storage of logs, but industry and the State of South Carolina are also looking at storage sites.

Mr. SPRATT. Do you think your sales to date have had a substantial impact on the market price for sawtimber?

Mr. ENG. I do not.

Mr. SPRATT. You do not think so?

Mr. ENG. I do not.

[EDITOR'S NOTE.—Letter of November 9, 1989, follows:]

United States Department of Agriculture | Forest Service | Washington Office | 12th & Independence SW
P.O. Box 96090
Washington, DC 20090-6090

Reply To: 3000

Date: [illegible]

Honorable Harold L. Volkmer
Chairman, Committee on Agriculture
Subcommittee on Forests, Family Farms and Energy
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Yesterday, you asked Donald Eng, Forest Supervisor of the Francis Marion National Forest, for information concerning timber sales before and after Hurricane Hugo. The following information responds to your request.

Average price for pine sawtimber on the Francis Marion National Forest in fiscal year 1989 was $179.46/MBF (thousand board feet).

Average price for Hugo salvage has been $55.76/MBF.

There are several reasons why salvage rates are only about 30 percent of prehurricane prices.

1. Sawtimber trees have suffered high breakage in the highest value section of the tree.

2. Environmental requirements in contracts lead to high risk to purchasers. (May not be able to operate in wet weather.)

3. Short time frames available for salvage.

One helicopter sale sold recently (11-6-89) for $16.96/MBF for pine and $22.01 for hardwood sawtimber. Helicopter stumpage price is not included in average salvage rates shown above since it is a different method of logging. Timber located in the Santee Experimental Forest sale is designed to protect research values.

One helicopter sale did not receive bids. The sale area is located on wet sites that make conventional logging extremely difficult and costly. Prices for salvage timber are expected to continue to drop as log quality decreases with time.

If you need additional information or if we can assist you in any way in evaluating forestry needs related to Hurricane Hugo, please call on us.

F. DALE ROBERTSON
Chief

Mr. SPRATT. I would like to ask you, Mr. West, in your opinion, are Federal programs for reforestation adequate for the reforestation problem that South Carolina is faced with in the aftermath of Hugo?

Mr. WEST. The existing programs are there, but they do not respond to the magnitude of this devastation, and I think the legislation introduced by Mr. Tallon would strengthen existing legislation that would allow us to give up to 75 percent cost sharing and, of course, under the current appropriation there is a very small amount of money available.

Mr. SPRATT. How much money is available under the Forest Incentive Program at the present time?

Mr. WEST. I do not have that here but I could get that figure for you. It is a national figure that we would have, $1.5 million about nationally, which is——

Mr. SPRATT. In the whole program only $1.5 million.

Mr. WEST. Yes.

Mr. SPRATT. So that is clearly inadequate. The laws on the books today simply do not address this particular problem?

Mr. WEST. Well, to the magnitude, you are right. The basic law is there but not to the level of cost sharing. Of course, the appropriation is nowhere near what would be needed for this size of program.

Mr. SPRATT. Now, we passed two provisions for Hurricane Hugo and another for Hugo and for the San Francisco earthquake. The first was $1.8 billion. Senator Hollings added that in fiscal year 1989, and the last was about—was over $3 billion, and both were to be used for both disasters. Is all that is being made available out of that nearly $4 billion, $22 million for the Forestry Service? Is that all the amount that they are going to make available to the Forest Service?

Mr. WEST. We are not sure how much will be made available. Most of it was fairly specific but there was a $250 million discretionary amount and our request based on what the intent of that was for this early emergency response that is needed, our response to that we needed immediately about $22 million.

Mr. SPRATT. And you said so far the funds have not been forthcoming. Now, what did you mean by that?

Mr. WEST. Well, we have requested them through the Secretary and that will work its way up through the Office of Management and Budget.

Mr. SPRATT. Mr. Tallon was not able to get his bill made part of the last appropriations bills but the committee report language was included that approved the utilization of some of the moneys that were appropriated for his particular plan. Now, there is a legal question there about whether or not there is underlying authorization for this cost-sharing plan. Have you inquired about the availability of those monies?

Mr. WEST. No, we have not but we will follow up on that, Mr. Spratt.

Mr. SPRATT. Thank you, Mr. Chairman.

Mr. VOLKMER. Thank you. I would like to follow up on that line of questions just a minute, try and put everything in perspective.

Jack, when will some of this area be ready, gone through clean up preparation, ready for reforestation?

Mr. ALCOCK. We are fast approaching our reforestation period right now in the South. There are some areas that could possibly be planted this winter. The bulk of the reforestation needs are going to fall in the next——

Mr. VOLKMER. 1991?

Mr. ALCOCK. Yes, sir. But there are lands that are available for planting now and we would like to get started on those. Of course, part of the costs of reforestation is preparing the site for planting. And that in itself is going to be a significant task here with the amount of down and damaged timber that there is on the ground.

Mr. OLIN. Would the chairman yield?

Mr. VOLKMER. I will yield in just a minute. Now, what the gentleman, my good colleague from South Carolina is trying to do is to help these private people out here who have all this down timber, and so they can get at least something back in the ground too. How much of that is what I am—maybe I need to talk to the next panel on that, or would you all have an idea?

Mr. WEST. I think they would be a better source than us. We have some data on it but they are the ones who are living the closest with that one.

Mr. VOLKMER. Right. Now, I will yield to the gentleman from Virginia.

Mr. OLIN. Thank you, Mr. Chairman, for yielding. On the subject of the national forest itself, do you have enough resources to do the amount of planting this winter that the cleared land will allow? Are you taking full advantage of the capability? Including how many seedlings you have got.

Mr. ENG. Basically, what we will be planting this winter will be the areas—we already had prepared. The big job this fiscal year is getting the sites prepared so we can plant next winter, and that is going to be a major undertaking. Our normal site preparation costs may be $100 to $125 an acre. That will be significantly more because of the amount of material that is on the ground. It is very important the money for reforestation get allocated now because most of the costs will go into preparing the sites, not putting trees in the ground.

Mr. OLIN. Does the 1990 money you talked about include the total clearing?

Mr. ENG. Yes.

Mr. OLIN. Thank you. Thank you, Mr. Chairman.

Mr. VOLKMER. The gentleman from California.

Mr. HERGER. Mr. West, Mr. Alcock, whoever would like to answer this, we are looking at such a huge area to go in and reforest. Do we have the seedlings and material available at this time to go in and do reforestation? Where do we stand as far as the supply of that?

Mr. ALCOCK. Yes. In total, given the amount of trees that are in State nurseries, industries' nurseries, and from other sources we have enough trees to bring us through the first year or two of this effort. Now, depending on the rate at which we reforest, there may be a need to expand existing nursery capacities. Fortunately, here we can increase our capacity in nurseries quite rapidly because we

plant basically 1-year-old seedlings which is different from the West in some cases. So we believe we have the seedlings that will allow us to do the initial reforestation effort but there may be a need for expansion after the first year or two.

One of our concerns here and the urgency of this, in this country if you do not replant quite rapidly, once the canopy is removed either by harvest or through a devastating storm, a tremendous amount of brush and other material move in and then your costs really skyrocket.

Mr. HERGER. Thank you.

Mr. VOLKMER. Mr. Beasley, I think some of your experiment stations have a different variety of pine that you plan—or Gene, is that true that you plan to plant in this area for reforestation? Is that correct?

Mr. BEASLEY. Correct. Basically, we have, Mr. Chairman, over time developed rust resistant trees, genetically improved trees. Some of that material I am sure is in the nursery stock. I do not know what percent of that would be available for planting, but some of that material would be as nursery stock.

Mr. VOLKMER. But we really would not be able to use all that, what I call advanced stock with supposedly better trees, would we, Gene?

Mr. ENG. All the trees we plant on the Francis Marion are improved seedlings from our nursery.

Mr. VOLKMER. You are contemplating using private, State, and United States to do the whole thing?

Mr. ENG. Yes.

Mr. VOLKMER. Is that available everywhere?

Mr. BEASLEY. It would be here. Basically, I think most of the planting stock would be improved stock.

Mr. VOLKMER. Fine. The gentleman from South Carolina.

Mr. TALLON. Thank you, Mr. Chairman. Continuing with this real concern of forest fires, what kind of contingency plans are you developing right now? What kind of equipment do you have available, and are we able to get other equipment from around the country? What are we looking at? I just see this as a real potential and a real problem.

Mr. ALCOCK. I will take a shot at that, Congressman Tallon. To this point, we have brought in some additional fire engine crews. These are fire trucks with additional manpower along with them. Right now they are doing prevention work. We have also prepositioned an air tanker close by and a helicopter, but that is a pittance compared to what is truly needed. We need a massive prevention effort, No. 1. We need to be able to preposition a significant amount of resources both in terms of aircraft and ground equipment. And this is going to have to go on for some period of time beyond just 1 fiscal year.

Mr. TALLON. And the equipment is just not available?

Mr. ALCOCK. No, I would say it is available throughout the country. Some of it is highly specialized that we would bring in from as far away as Mr. Herger's country.

The other major need is to create some serious large fire breaks and to break up these huge expanses of heavy fuel. We know we

are going to have fires. There is no doubt about it. It is just a matter of trying to get prepared out ahead of that.

Mr. TALLON. And are we doing everything in your mind that we possibly can to develop a contingency plan knowing that this is going to be a problem?

Mr. ALCOCK. Yes, sir, the planning is well along, but we lack the wherewithal to implement those plans.

Mr. TALLON. And when you say the wherewithal, you say the equipment is available and you could possibly bring in equipment from as far away as California?

Mr. ALCOCK. Yes, sir.

Mr. TALLON. Are we actually in the process of doing that now?

Mr. ALCOCK. We have brought in equipment from as far away as the Southwest at this point. We have not touched California, but we have the capability of mobilizing a large amount of equipment in a very short order. We have done that unfortunately several years running now due to some serious national forest fire situations so it can be done, but it takes preplanning and it takes some money.

Mr. TALLON. I know it does and I just encourage you to do everything possible. I think in this case certainly an ounce of prevention could be worth a pound of cure. Let us do everything we possibly can. We will work with you to see if we have got resources that could be used here and we feel certain may need to be used here, let us get them in position and get a good contingency plan. Thank you very much.

Mr. VOLKMER. All right. I am looking, Allan, at this funding needs chart here.

Mr. WEST. Yes.

Mr. VOLKMER. In the reforestation part here, forest resource management and forest reforestation, that figure I see there only applies to the U.S. forests, is that correct?

Mr. WEST. This is broken down by State and private.

Mr. VOLKMER. I see it says State and private forestry above.

Mr. WEST. This is the way the budget line item worked out and if you go under the State and private main heading, you will see reforestation and you will also see it under the National Forest System.

Mr. VOLKMER. Now, the 41, is that dollars, is that $41 million in 1990 under State and private reforestation?

Mr. WEST. That is correct.

Mr. VOLKMER. Now, is that contemplating using the existing laws, or is that contemplating using something like Congressman Tallon has done, or do we know?

Mr. ALCOCK. I believe we have the authority under existing law to carry out these types of cooperative programs.

Mr. VOLKMER. In other words, if you had the dollars, you could do the program?

Mr. ALCOCK. Yes, sir. There are some other concerns that are addressed in Congressman Tallon's bill and that has to do with things like compliance with NEPA and the possibility of removing barriers that could get in the way of doing emergency work.

Mr. VOLKMER. Thank you very much. I appreciate you being here today. I look forward to working with you as we go forward with this.

With that, we will go to our next panel.

Mr. WEST. Thank you, Mr. Chairman.

Mr. VOLKMER. Thank you very much, Allan.

The next panel is Mr. Robert "Jack" Gould, South Carolina acting State forester from Columbia; Mr. Derryl Walden, North Carolina Division of State Forester, section chief for forest management & development from Raleigh; and Mr. Scott Wallinger, senior vice president, Westvaco Timberlands, and chairman, Governor's Forest Disaster Salvage Council from Summerville, South Carolina.

Gentlemen, I would appreciate your testifying in the order in which you were introduced. Your prepared statements will be made part of the record, and you may either summarize or review the testimony in full. We will begin with Mr. Gould.

STATEMENT OF ROBERT "JACK" GOULD, ACTING STATE FORESTER, SOUTH CAROLINA FORESTRY COMMISSION

Mr. GOULD. Thank you, Chairman Volkmer. It is again a pleasure to be with you. We had the opportunity to address the subcommittee about 4 weeks ago in a trip to Washington. It is a pleasure for us to be with you again today.

Chairman Volkmer, members of the committee, ladies and gentlemen, my name is Jack Gould and I am the acting State forester for the State of South Carolina and the South Carolina Forestry Commission.

And as indicated through State statute, our agency is charged with the protection and development of the forest resource of South Carolina. Hugo, unfortunately, created in its 6-hour passage through South Carolina, a situation that makes it very difficult to follow the normal phases of protection and development.

At the risk of being somewhat repetitious, let us again look at the damage that Hurricane Hugo placed on our woodlands:

The scope of the damage: 4.4 million acres.

The sawtimber damaged: 6.7 billion board feet.

Pulpwood damaged: 20 million cords.

Total damage including sawtimber, pulpwood, the degrade incurred upon both sawtimber pulpwood and the damage to the precommercial timber is valued at $1.04 billion. Again, figures that we are very unaccustomed to dealing with in this magnitude.

This damage is equivalent to 3 years of the normal annual timber removals over the entire State of South Carolina.

In Hugo's wake, the Forestry Commission, in cooperation with the entire forestry community, is actively addressing the major challenges of salvage, protection; both from wildfire, and from insects and diseases; and reforestation.

Much can be done with our agency's existing resources, however, the magnitude of these problem areas will demand actions far beyond our normal capabilities.

With specific reference to the threat of wildfire, the areas severely damaged by Hugo are also the areas that normally experience the highest rates of forest fire occurrence and damage.

Unbelievable amounts of fuels have been added to normal curing forest fuels, thus creating the potential of what we consider a possible second disaster—that of uncontrollable wildfire which now threatens lives and homes as well as the forest itself.

Traditional control methods of fighting forest fires will be impractical in these heavily damaged areas where the "jackstrawed" arrangement of snapped and blown-down trees makes movement of most normal fire suppression equipment nearly impossible.

The Forestry Commission has initiated a $5.8 million request that will provide emergency forest fire protection and control measures, and we feel that there is a place for the Federal Government to assist in funding this proposal either through the current FEMA programs of public health and safety, and their hazard mitigation program, or through the use of discretionary funds for the U.S. Forest Service Service or President Bush's disaster relief bill.

To meet the threat of wildfire that is increasing daily as forest fuels cure and become ever more flammable, we need to act now. We encourage your attention to this urgent matter that we feel is one of the greatest wildfire threats ever encountered in the Southeast.

Also needed and dependent directly upon Federal funding, is the resurvey of the storm damaged area by the U.S. Forest Service's Forest Inventory and Analysis Group of the Southeastern Forest Experiment Station in Asheville. You heard Mr. Beasley comment on that earlier.

This survey, utilizing permanent forestry plots established many years ago, is necessary to provide a true scientific assessment of the damage, and the condition of the remaining forest resource.

Private landowners and forest industry need this information as rapidly as possible so that they can plan for the future.

The coordination and planning for this survey is basically complete, but funding in the amount of $750,000 for South Carolina's section must be approved so that this survey can begin. The U.S. Forest Service as you have already heard has directed a request for $22 million asking for funding from the President's discretionary account that includes the forest survey. However, this action could be weeks away. Your support utilizing alternate action or the acceleration of the U.S. Forest Service's request are urgently needed on this important part of our Hugo recovery actions.

Reforestation measures on over 1.1 million acres of the destroyed and heavily damaged stands of timber will also be necessary, and timber stand improvement practices performed on another million acres of pine and hardwood to facilitate natural regeneration.

We support the currently proposed legislation on reforestation action that will—or has been—presented to you today, and respectfully encourage your support of these measures also.

I was also contacted just this morning by the Soil Conservation Service director of the State who asked that special mention be given to the emergency watershed program efforts and we have a request in to them at this time for $145,000 which will entail the removal of timber that is in the stream beds, and so forth, on our Manchester State Forest.

We are now setting the stage to deal with the results of a storm that has produced the single greatest forest disaster in the history of the United States.

The combined forestry community of South Carolina is working very closely together and is dedicated to meeting the challenges created by Hugo, and we encourage you to assist South Carolina in every possible way.

Thank you very much.

[The prepared statement of Mr. Gould appears at the conclusion of the hearing.]

Mr. OLIN [acting chairman]. Thank you. Mr. Walden.

STATEMENT OF DERRYL L. WALDEN, SECTION CHIEF, FOREST MANAGEMENT AND FOREST DEVELOPMENT, NORTH CAROLINA DIVISION OF FOREST RESOURCES

Mr. WALDEN. Thank you, Mr. Chairman. My name is Derryl Walden. I am representing the North Carolina Division of Forest Resources.

I will briefly review the written comments which I have already provided to the committee. While North Carolina did not suffer the damage that South Carolina did, there was still a tremendous amount of damage from Hurricane Hugo in the State of North Carolina. The storm entered the Piedmont Region of the State and traveled through the foothills and through a portion of the mountain area. There was significant damage in 26 of the State's 100 counties with local areas of damage in the other counties. A total of 2.7 million acres of woodlands in the State of North Carolina received appreciable impact from Hugo.

A survey of the area in the storm's path indicated in excess of 3 billion board feet of sawtimber damaged or destroyed and 6.5 million cords of pulpwood. More than two-thirds or approximately two-thirds of this volume was hardwood timber as opposed to pine. Pine damage involved both white and yellow pine. The hardwood, of course was a mixture of species, the most significant being oak. The total assessed value of the damaged resource was $272 million.

I would like to address several different areas of concern, the first of which is the salvage of the downed timber. There are markets for a fair amount of the sawtimber in or near the area of damage. The markets for the pulpwood are very weak or nonexistent in this area. Much of the sawtimber size trees were damaged to the point that they could only be used for pulpwood but there is still a significant amount of sawtimber available for salvage.

We anticipate that the pine must be salvaged by the spring, late spring or else it will be pretty much useless. The hardwood probably can be salvaged up to about 1 year or a little more.

The biggest obstacle that we are finding in the salvage of this timber is an insufficient number of available loggers. The loggers in this area are adequate only to meet routine needs and we have been trying to draw in loggers from other areas, from eastern North Carolina, from Virginia, from eastern Tennessee. This has met with only limited success.

It is really kind of a catch-22 situation. The markets in the area, the mills need the wood but because of the wet conditions we have

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had all year, their wood supplies are low. Most of them outside of the immediate area are hesitant to let the loggers come into this area because it is so much slower and the quality of the wood is so much less that they are having to cut at maximum production in their local areas to keep their mills operational.

The difficulty of logging is much more severe in these areas. The timber is significantly "jackstrawed" and broken. Much of it after being sawn up has proven not to be of the best quality.

Our greatest need in this area does involve trying to entice more loggers into the area. There may be the possibility through the Small Business Administration or other opportunities to encourage people in the area to enter into the logging business and any efforts that can be made from any source to bring established loggers into the area is being encouraged. The Division of Forest Resources is setting up our local people in somewhat of a brokers format to try to line up groups of landowners with salvage needs in large enough quantity to entice loggers from elsewhere to come in, realizing that there is a guaranteed supply of wood. Even this is meeting with limited success.

The issue of fire potential has already been addressed and I will not repeat everything that has been said. It is a real problem in much of the 26 counties that we do have damage. Again, the "jackstraw," the large continuous tracts of blown-down timber are such that normal fire suppression techniques of making an initial attack on an initiating fire will be virtually impossible.

We have many areas in the western part of North Carolina where homes and developments are in very close proximity to these wooded tracts and these blown-down areas, and we see an increased danger not just to the loss of woodlands but to the loss of additional real property. We are hoping to increase the use of aircraft in the area, feeling in some areas that may be the only effective means until the fire has passed through the damaged area.

The division is currently doing aerial surveys, making aerial photographs trying to identify these specific areas that will need additional preattack planning and recognizing where the most severe problems will exist.

Supplemental Federal funding in the fire grants area would be quite beneficial to the area in the State, again trying to emphasize aerial operations by bringing in additional helicopters through the Federal Excess Property Program. Also we feel that the addition of an aerial tanker up in that area would be very helpful. We normally do not use aerial tankers in that area.

The Division of Forest Resources has submitted a request to Jack Alcock's office for $2.6 million for fire suppression, supplemental fire granting for equipment.

In the area of reforestation, we feel that the majority of the damaged forest will require some type of reforestation activities. We feel that the problem is compounded, that in some of the areas salvage may not be possible as well as we feel that there will be landowner frustration and disillusionment with forestry in general. If they have lost their stand of trees and have not been able to have it salvaged, it is going to be real difficult to go out and convince them they should pay even 25 percent to reforest. So again, this points out the need for maximizing the salvage operation. As it was

mentioned earlier, the possibility of some type of tax relief for these individuals who have lost timber of value would help make this reforestation effort more likely to occur too in terms of landowners being willing to invest anything at all in reforestation. We anticipate of the total area damaged about 60 percent of the reforestation effort will involve re-establishment of pines.

Being that this came into the western part of the State of North Carolina much of the area damaged, as I mentioned earlier, did involve hardwoods. Hardwood regeneration is much more difficult in most cases than re-establishment of pines. Normally, this involves encouraging natural regeneration either through sprouting or natural seeding as opposed to replanting. In a lot of areas, this will mean removing those damaged and undesirable species that remain so as to allow the better quality hardwoods to generate naturally through this stand.

Another concern which is maybe more technical and more long range that we are concerned over, again being that much of this involves hardwood area in the western part of the state which is where our major hardwood emphasis is, is that we see a long term shift in species type as a result of this storm activity. The predominant species in the areas damaged were oak-pine or oak-hickory forest types. This type of natural catastrophe normally would result in a high component of less desirable species returning primarily Virginia pine or yellow poplar. We see the percentage of quality oak trees being significantly reduced in that part of the State unless there is some major effort to enhance the re-establishment of oak in the area. We see this as a long-term impact on the markets in that area, both in the furniture and other forestry markets in that area.

This concludes my part of the presentation.

[The prepared statement of Mr. Walden appears at the conclusion of the hearing.]

Mr. OLIN. Thank you. Mr. Wallinger.

STATEMENT OF R. SCOTT WALLINGER, SENIOR VICE PRESIDENT, WESTVACO CORP., AND CHAIRMAN, GOVERNOR'S FOREST DISASTER SALVAGE COUNCIL

Mr. WALLINGER. Thank you very much, Mr. Chairman, and gentlemen. My name is Scott Wallinger, and I live in Summerville, about 20 miles from here. I am a senior vice president of Westvaco Corporation, which is a large pulp and paper and chemical concern. And one of my responsibilities is the timberlands division for the company. We own about 500,000 acres of land in South Carolina, and about 200,000 acres of that was in the path of the storm. And like everyone else, we have had extensive damage and we are busy with the salvage effort.

But this morning, I am here as chairman of the Governor's Forest Disaster Salvage Council and will be speaking from that viewpoint.

With your permission, I would like to divide my comments with Mr. Mac Lupold, who is the executive secretary for the council, and who works in the details of that pretty much 16 to 18 hours a day judging by the time of day I get messages from Mac.

Mr. VOLKMER. That will be fine.

Mr. WALLINGER. Thank you, sir. I might also mention that Jack Gould, our acting State forester, is a member of the council and is chairman of one of the committees, and Mr. Bill Sullivan, who is on your third panel from International Paper Company chairs the utilization committee for the council and so some of what he will be reflecting will also be from the perspective of the council.

The council consists of 17 people appointed by the Governor who represent State and Federal agencies connected with forestry in the State, some members of the general assembly, consulting foresters and private industry. And our explicit purpose is to facilitate a very active salvage effort to maximize the recovery of timber volume and value within the small period of time that we have.

I am attaching to my statement copies of the executive order that creates the council, a list of its membership, its committee structure and the statement of priorities and objectives the council adopted at its first meeting the day after it was created.

Mr. VOLKMER. Without objection, that will be made part of the record.

Mr. WALLINGER. Thank you, sir. Our work is focused on finding markets for wood over as broad an area as possible so that the salvage effort is not limited to the capacity of the local mills. We are promoting the extended storage of sawlogs and pulpwood so that additional volumes can be recovered for use over the next year or two. We are seeking logging capacity to increase the rate of timber movement because this really is becoming the limiting factor at the moment. We are obtaining temporary removal of regulatory barriers that might impede accelerated salvage, or storage or transportation of wood. Initial efforts have been hampered by extremely wet ground conditions following the storm, but the salvage effort is now beginning to accelerate. I should mention that the council operates within the framework of antitrust laws that prohibit companies from agreeing to set prices, or to allocate territories, or to agree on quotas. The council sets no priorities that favors any one landowner or class of landowners, private or public, over another. We seek to foster a salvage effort that does not damage our forest soils or the environment so that landowners can rebuild our forest to full productivity.

There is a limited role perhaps for the Federal Government in the salvage effort itself, because that relies mainly on private sector activity. However, the council is seeking $30 million in Federal funds to provide working capital for small businesses, large loggers and perhaps some landowners to inventory salvage timber under water storage up to 2 years to increase the volume and value recovery. Many of the small businesses just simply do not have the capital resources to set up the inventory facilities for spray storage and then to carry that inventory which would include the stumpage prices that they pay plus the cost of logging to get the wood into inventory.

There is a distinct role for the Federal Government in finding ways to help private landowners in three States to offset more than $1 billion in uninsurable losses in standing timber. I think that if we add up the figures for South Carolina and North Carolina and Virginia and back out the losses on the national forests and the

State forests and the corporate holdings themselves, we are still looking at an order of magnitude of $1 billion that has come straight out of the pockets of the individual private landowners. There is an equally distinct role for the Federal Government in finding ways to help private landowners and the national forest over the next 10 years to reforest the tremendous area of forest that was destroyed. The recovery period will not be just 2 or 3 years. It is going to be an extended time frame to carry out the initial salvage, then follow up, clean up of stands and then to reforest the area over a reasonable period of time.

There is certainly a role for the Federal Government to help deal with the terrible wildfire threat for the next several years which has been described by Jack Gould and by members of the previous panel.

The key to an accurate assessment is funds for the Forest Service to proceed as soon as possible with the resurvey of the counties that have been affected by the storm. Up to this point, we are working largely on aerial reconnaissance and a lot of estimate but that will be the first time that anyone is able to systematically get in on the ground and remeasure the established plots and to come up with a more precise estimate of the true nature of the timber damage and the reforestation job.

Our Salvage Council adopted a slogan that appears on our materials and it guides our own thinking on the council, and that slogan is this: "Seeking unprecedented solutions to an unprecedented challenge." We recognize that it is not enough to say that "this has never been done before," or "how did others do this?" No storm before has ever done such extensive damage as Hugo did here and there are really no precedents to deal in the forestry sector in this country.

I hope that our slogan might guide your own thinking on this subcommittee and in the Congress as you assess the impact of Hugo and the enormous challenge that we face to salvage the timber first and then to restore the forests. The landowners and industry and foresters are responding to an unprecedented situation, and we need a Government response that rises equally to the circumstances.

At this point, I would like to pass the microphone to Mac Lupold, our executive secretary, and let him add some more specific comments, if I may.

[The prepared statement of Mr. Wallinger appears at the conclusion of the hearing.]

Mr. OLIN. Mr. Lupold, go right ahead.

STATEMENT OF HUGH M. LUPOLD, EXECUTIVE SECRETARY, GOVERNOR'S FOREST DISASTER SALVAGE COUNCIL

Mr. LUPOLD. I appreciate this opportunity to present the council's activities. My name is Mac Lupold. I live in Holly Hill. It is a rural town about 30 miles from here, which was in the path of Hugo's destruction. I am normally a forest products consultant. I have been willing to serve on the council as their executive secretary. For the past 20 years I have worked with private landowners as a consultant. I have worked with industry in managing lands and

purchasing wood for facilities. I have operated several types of facilities and more recently being doing consulting in new products and marketing.

Over the past 4 weeks the council has been operating, we have had numerous meetings, committee meetings involving the very best forestry talent South Carolina has to offer this salvage issue. Attached to the statement I will give you will be our activities or a summary of our activities for the last 4 weeks, and some technical data that we have distributed.

I want to make sure one emphasis. We are not a paperwork committee that is going to give someone or the Governor a report a month or two from now and then action will be taken. We try to take every day as an emergency. We are performing in that manner, leaving the paperwork for some historian, and trying to facilitate and coordinate the salvage efforts.

I would like to present the significant day to day activities in the context of the positive and the negative factors that we are forced to operate within.

As the gentleman from North Carolina said, we are currently blessed with a strong pulp and paper market and a relatively strong solid wood products demand throughout the Southeast. These wood using facilities have increased manufacturing capability. Many of them from Virginia to Florida and west to Alabama-Mississippi are low right now in raw materials in their inventory that they are trying to build for winter operations. Obviously, these are fortunate opportunities for the use of the salvage pine which represents if we—sometimes we have to get down and break these entities out. Pine, we have about 2 years on the ground. If you look at the hardwood, they are 14 years on the ground of hardwood material. That is based on our survey. This is on 64 percent of this area is private, 26 percent is industrial, and 10 percent is governmental. The council is encouraging South Carolina and out-of-State mills to increase their operating hours and their work days to facilitate the increased flow of wood. The economical movement and availability of chip and log railroad cars, which are in short supply, are major obstacles to overcome.

Now, the Forest Service mentioned earlier that we were looking at things in a third-third-third package. That is—we set something so we could get going. We have since changed these figures. We feel like we will utilize about 50 percent of our materials in South Carolina, we will put about 10 percent in log storage or lumber storage, and we will ship about 40 percent out of State. From the time frame standpoint, we have probably got until January or February to the quality sawtimber up or fine sawtimber. A lot depends on the deterioration of the bark around the stems. If the bark will stay firm and tight, then the quality will stay for awhile, the pine sawtimber. The other grades probably into late spring or early summer.

Now, I mentioned the pine sawtimber because this represents 61 percent of the merchantible value that was damaged. In our estimated salvage, we have nearly 75 percent of the salvage value in pine sawtimber. So it emphasizes if we ware going to put any money back into the hands of the landowners, we have got to create markets for pine sawtimber. We have got to create means to

utilize the sawtimber both now and somewhat in the future. Hardwoods probably 1 or 2 years and I will mention that a little bit later.

In South Carolina, we also have chipmills and sawmills that have ability to produce considerably more pine and hardwood chips but chip cars are a problem and we are working with the railroads on that, that shortage that exists throughout the whole country. The ability to move short pulpwood from the woods to woodyards and the pulp mills is a major problem since most shortwood—these bobtail trucks that you are familiar with—are gone, these yards are closed and the handling technology is adapted to long wood and the chip operations. This means that within days the wood industry has attempted to locate shortwood loggers, rebuild woodyards, secure different moving equipment, adapt tree length operations, obtain woodracks which are in available surplus—all positive efforts to move the wood as quickly as possible.

The 2.5 billion cubic feet of wood on the ground, worth approximately $1 billion, we are saying is more than if you total up Camille, Frederick, Mount St. Helen, and Yellowstone fires, you still do not equal the devastation of Hugo. We have a perishable product that we need immediate salvage. The insect and a fungus in pine, called blue stain, will become a serious problem as this bark layer loosens and we develop the stain. A wet, cold condition can delay this log quality deterioration.

These are very preliminary reports that I got from the Forestry Commission, a fellow that was working there yesterday fax'd me late last night. After 6 weeks we are showing about a 3 to 4 percent that has already been salvaged of woods down. This was 98 percent on private lands, 1.5 percent on industry and 0.5 percent on government. We will say these are preliminary figures but we are monitoring each week what the industry is cutting so that we can have a barometer, a monitoring system to see how well we are doing. Mills are finding some internal damage in the logs after the lumber is mired and dressed from various compression breaks and stresses. Woodbuyers are faced with wet logging conditions in the coastal plains and a shortage of loggers and increased logging and hauling costs.

Export was mentioned. We have looked at the export. It is such that in South Carolina we do not have the break bulk capability that you have in other ports. Chips have to move out of Savannah or either Moorhead City. Some of these alternatives we are looking at. We are having problems—it has been brought up to me this morning—just in unloading at Charleston and stevedore to put it back on the vessel is costing us $135 a thousand. And in normal time timber is maybe 180 or let us just say use 180 as a figure so obviously this is a problem that the council tackles of an overview nature and that is a thing we will look at before the day is over with.

The council is seeking $30 million from FEMA and/or through special legislation for storage loans, for logs, chips, lumber and for logger assistance, money that can go back to the government or back to another program. We do not want it as a grant, we want it as a working capital for small businesses that do not have the capital, the million dollars to put in storage to try to achieve the sal-

vage goals. Logs, as has been stated, can successfully be stored for 1 to 2 years by the mills when no more wood is available in the area to keep mills operating and personnel employed.

A survey has been mentioned. The survey results should tell us in February/March how we can attack the hardwood utilization problem. Most of it is in swamps, most of them are flooded today. You cannot get to them so we are concentrating on the pines. The survey will be a benchmark for future forest planning for one-third of South Carolina's timberland. Basically, we lost 20 percent of the growing base so somewhere down the line the impact on mills and whatever, we are going to have 20 percent less wood to cut. So mills will either have to cut back or some will not be available. The snapped off pine sawtimber portion of the tree which can only be salvaged for pulpwood has drastically affected the monetary return to the landowner.

Here again these are initial estimates and hopefully our committee that meets Wednesday can come up with little better figures. We feel at best we will salvage 25 percent by volume and 10 percent by value. Out of the 1 billion, 400 million—4 million—40 million, we might get $100 million back in the pockets of South Carolina's timberland owners. In simple terms, this means that these 30 to 35 thousand landowners will lose nearly one billion worth of uninsured assets. With special legislation for reforestation—and we would like to see higher percentages in there because of a lot of them are not going to have the money to put in 50 or 25 percent—we would like those percentages higher. We also have proposed a forest land bank type program where the landowner can recover at least 25 percent of his loss over the next 10 years.

The Salvage Council will work hard to facilitate the salvage effort but it will be those men and women that are in this room and that are working out in the woods today that will get the job done.

[The prepared statement of Mr. Lupold appears at the conclusion of the hearing.]

Mr. OLIN. Thank you, Mr. Lupold. Do you have anymore, Mr. Wallinger?

Mr. WALLINGER. Nothing more, sir.

Mr. OLIN. We certainly appreciate your testimony.

Let me just ask a couple to start off with on the issue of the possibility of a fire of disaster proportions. You have all made the statements that the present methods of containing fires are not possible because of inaccessibility, the lack of roads and so on. Is it possible to come up with a plan which would provide some kind of compartmentalization such that you could contain fires and prevent a statewide fire storm. I do not know who is the best one to comment on that, Mr. Gould maybe?

Mr. GOULD. Well, as indicated, we have made provisions to meet this demand. We are proposing bringing in larger equipment to give us better access to the areas that are now so inaccessible because of the logs on the grounds, the snaps. It is just a series of you might say inverted checks that are out there in the woods right now. We are already retrofitting some of our existing equipment. This State has over 200 crawler tractor suppression units and what we are doing now is retrofitting those with C-frames and V-blades,

straight blades to give us some provision for pushing rather than just normal fire line construction with the fire plows that we have. We are looking at the purchase of—if funds are available, of larger equipment in the D–5 category. We are also looking at utilizing the existing equipment that is here in the state of the large category, I am referring to D–7 type of equipment that is normally used for site preparation methods usually in the June through December period. December through the peak of our fire season this equipment is normally not utilized to its full extent so we anticipate—we have it in our plan that you have before you—trying to contract with these people and this equipment who are accustomed to the conditions in the woods and we feel would be very efficient in doing things of this sort, both constructing presuppression breaks and meeting the demands on going wildfires.

Mr. OLIN. So you anticipate creating breaks sufficient to have some availability to stop a fire in its beginning?

Mr. GOULD. We will anticipate that. One of our forest services that we provide to the citizens of South Carolina on a fee basis is the construction of fire lines, fire breaks, and we will be doing as much of that as possible.

Mr. WALLINGER. Could I add a comment to that?

Mr. OLIN. Yes, Mr. Wallinger.

Mr. WALLINGER. What Jack has said is absolutely correct and what Don Eng said earlier. We will compartmentalize the forest area here by presuppression fire breaks. The difficulty is when you get a very hot fire in any one of these compartments and it starts throwing sparks over into the center of the next one and you have "jackstrawed" timber and there is no way for a tractor to get in there and you would not think of putting men in on foot. Then it is absolutely essential that you have some means of aerial containment so that you can put out those sparks in the next compartment, otherwise it will just jump from compartment to compartment so you need the combination of heavy equipment on the ground and the aerial capability to catch the spot overs before they turn the next compartment into a big fire.

Mr. OLIN. Thank you. Let me ask one more question and then I will turn to other members. On a different subject, Mr. Walden, does the State of North Carolina have a Coordinating Council of the same general structure? Will you describe what the Governor of North Carolina might have put in place for salvage or recovery?

Mr. WALDEN. There has not been the formal council set up similar to South Carolina's, no, sir. This has been a joint effort involving our division, involving forestry extension, involving a number of consulting foresters and we have been in close coordination with most of the industries, particularly in the western part of the State. There has not been a formal council chartered such as this one but there has has been close coordination with all members of the forestry and other government related agencies, and private industry.

Mr. OLIN. Is it your view that the coordination that you have accomplished is going to be sufficient to meet your needs?

Mr. WALDEN. I believe it has been sufficient in terms of what has transpired to this point. We are still looking for opportunities to improve it and I am not sure that maybe we could not gain from

maybe getting a little more formalized as they have done here. I think there is—so much of this is long-term. Initially, we as a division had, I think, about 300 people to go out and help with actual cleanup operation, cleaning public right-of-ways, this type of thing. That was our first response. The salvage operation has involved considerable coordination with other operations and activities in agencies and private industries of the state. Probably in the long-term operation we are looking to get maybe a little more formalized and doing whatever is necessary on this.

Mr. OLIN. Thank you. The gentleman from California, do you have any questions?

Mr. HERGER. No questions, Mr. Chairman.

Mr. OLIN. Mr. Chairman, the gentleman from Missouri,

Mr. VOLKMER. I have a couple of questions. Earlier on in talking to the previous panel in regard to reforestation efforts and how soon can they begin. They, of course, were able to address the U.S. forestlands. Is anyone there that can address our private lands?

Mr. WALLINGER. Jack, do you want to comment on that and I will add to what you have.

Mr. GOULD. I could lead off with some basic comments.

We normally produce within South Carolina enough seedlings at the various nurseries within the State to plant approximately 250,000 acres. We have anywhere from 175 to 200 million seedlings that are produced each year. There is some concern in the immediate reforestation efforts that with a disaster of this type you have a considerable build up of Pales weevil which is an insect that attacks the trees within the 1 and 2 year age category. So we are watching that very closely. We are always concerned with the very obvious things such wildfire but these more hidden things such as insect activity can sneak up on you and can really smite you down. So we are watching that very, very closely.

To answer your question about the total amount of reforestation we feel, as Mr. Wallinger has said, that this is a long-term situation whereby we will be looking at reforestation which, in most cases, will have to be prefaced or site prepared prior to getting into the actual planting of the seedlings. So we will have a great deal of site preparation that is also going to be required, and may be one of the limiting factors as to how much actual reforestation measures can be taken. But we normally have the facilities to—provisions to put in 250,000 acres a year.

We anticipate looking at all the different damages and my forest management section indicates about 1.1 million acres will require reforestation. We will have some, what we call accidental reforestation, which will be through natural regeneration. We were blessed with a fairly good seed year for loblolly pine. Our longleaf pine had just a terrible year. There were very little cones or conelets which would be the seed for the next year on long leaf pine. The hardwood areas that were hit extremely severely as has been mentioned will normally be regenerated through natural means.

We will need some backing through cost sharing practices to go in and treat these areas so that you can start them with even age management and there will be some preparatory treatment that will be required in order to get your hardwoods back in shape and through natural regeneration.

Scott, do you have any other comments?

Mr. WALLINGER. Jack, I just wanted to comment that usually nursery capacity can respond pretty well within a time period of a couple of years. And I think that we have adequate nursery capacity in South Carolina and in the adjoining States to grow the number of seedlings that will be required.

Jack, I think one thing that may be limiting to a large escalation in the planting rate may be the availability of genetically improved pine seeds because a number of the seed orchards were severely damaged. The national forest essentially lost their seed orchard. Several of the companies had damage to their seed orchards. I think that most of the companies in the state feel that they have enough seed in inventory to carry the current planting rate for a few years and there are younger orchards coming in but you cannot bring in seeds from just anywhere. They have to come from pretty close to where the seedlings are going to be planted, so that may be a limiting factor also.

Mr. VOLKMER. I still am looking for the question. Mr. Lupold, you mentioned that what—34 percent of the acreage has already been cleared? Did I misunderstand you?

Mr. LUPOLD. No, sir, I think the comment was that 3 to 4 percent.

Mr. VOLKMER. Three to four percent.

Mr. LUPOLD. Three to 4 percent of the volume we are trying to salvage has been accomplished in the first 6 weeks.

Mr. VOLKMER. How much acreage have we cleared then would you say?

Mr. LUPOLD. I doubt very little has been cleared.

Mr. VOLKMER. All right, that gives me the question I still need an answer to. When will this land of the private forest be ready for reforestation, this year, next year, how much this year? I mean we are getting into the season to plant the seedlings. We have still got all these trees down all over the place.

Mr. WALLINGER. I think I would echo in part what the previous panel said, that the planting that is done this year is going to be land that was already cleared and scheduled for planting in the winter of 1989-90. In 1990 itself, the land clearing for site preparation will really just begin to get underway and I think that there will be need for some reforestation funds for site preparation during 1990 and some increase in planting for the winter of 1990 and 1991. I think by 1991 is when the real salvage effort—when the real reforestation effort will get underway because people are pretty much focused on the salvage effort right now.

Mr. VOLKMER. That is what I thought. Thank you very much. Thank you, Mr. Chairman.

Mr. OLIN. The gentleman from Alabama.

Mr. HARRIS. No questions, Mr. Chairman.

Mr. OLIN. Mr. Tallon.

Mr. TALLON. Thank you, Mr. Chairman. Jack, you sort of went over our capabilities here in the State in relation to fighting wildfires that we are all very concerned and expect that we are going to have a problem with. Has there been an effort to see how we can coordinate with Federal resources, the Forest Service, with re-

sources that they may be bringing in in the event—in the likely event that we are going to have forest fires?

Mr. GOULD. Well, we do on areas that are contiguous with the Forest Service lands and, of course, much of their land is interspaced with private land ownership and we work very closely with the Forest Service in that capacity. As far as the Forest Service's capability to go out beyond their normal areas, I would say there would be very limited amounts of equipment and manpower that could be utilized on other private lands within the State.

Mr. TALLON. Jack, why do we not work with the Forest Service and look at what Federal assets are available, and I certainly mean beyond any contiguous lands. I do not know what kind of restrictions that apply to the use of this equipment but I certainly intend to find out and, if possible, I would like for those Federal resources to be used. And certainly I think we need on a State level to coordinate our equipment with their equipment on private timberland. I think that is essential and if there is a problem in doing that, I would like to know what it is. If it is something that we could address, I am ready to address it. If you would look at that and work with the Forest Service, I sure would like to know if there is any problem in coordinating the resources for firefighting.

Mr. GOULD. Well, I do not believe—I think the main limitation would be in the amount of equipment that the Forest Service has in this area. I think it has been decreasing over the last several years to—compared with the level say of 15 or 20 years ago as far as the total amount of suppression units and so forth that are in the area.

Mr. TALLON. The former panel had talked about bringing in resources from as far away as California and I just think it would be a shame. I know when the hurricane first struck we had problems and so much bureaucracy and red tape and generators 15 miles away that were Federal assets that needed to be used here in this county and that sort of thing and I do not want that to happen in the event that a forest fire breaks out and people are concerned about whether we could use this resource or not use this resource. I hope that is something that you might take a look at. Scott, I do not know if your committee gets into that but if it does, please make some recommendations to us and that is something that certainly I will look into.

Mr. WALLINGER. We certainly will.

Mr. TALLON. Jack, moving onto another area. Congressman Spratt, I have been working with him, he has introduced legislation to try to look at tax casualty losses based on the actual value and not, of course, the price that was paid when you planted the seedlings 30 or 35 years ago, and in talking to the staff on the Ways and Means Committee in Washington, the real concern there, and it is going to be very difficult to do anything after talking to them because they are so concerned about the potential for fraud in establishing the actual value of these timber stands. Do you have any suggestions on how we could do that maybe using State foresters to come in and make appraisals prior to the hurricane and the damage sustained?

Mr. GOULD. That would be difficult to say as to whether or not we would have either the adequate staff to do that with as much as

they have right now, whether or not they would—it requires a great deal of expertise and training to provide appraisals of that type. I know our consultant foresters, of which there is a very strong body in the State, are actively engaged in this type of activity at this time. And a great many of the consulting foresters from without the damaged areas are being brought in and utilized in that manner, much the same as our foresters are being brought in to assist the landowners in just helping them contact loggers and giving them advice on salvage methods and so forth.

Mr. TALLON. To everybody on the panel, if you have any suggestions on how we can establish in the event we can get some tax relief based on the actual value of these timberlands—if you have got suggestions on how we might establish that because that is going to be one of the great difficulties I think in presenting this to the appropriate committees in the Congress, please give us your suggestions and give that some thought.

Mr. GOULD. We will certainly try to address that.

Mr. TALLON. Thank you. Mr. Lupold, let me ask a question just to try to understand something. When you talk about exporting chips, what is the primary use of these chips?

Mr. LUPOLD. Well, it still goes into pulp and papermills around the world, either in Japan or to Europe.

Mr. TALLON. I think you said one of the problems was handling the chips in the Port of Charleston. I know that is break bulk cargo and, of course, Georgetown is a port that really specializes in handling break bulk cargo. I do not know what would have to be done but I hope the task force, the Governor's task force would look at the possibility—if it cannot be done in Charleston, certainly Georgetown is a port I hope we are looking at. Have we looked at Georgetown?

Mr. LUPOLD. We have looked at Georgetown. We have looked at it for logs. One of the problems with Georgetown is you have a 24-foot draft, most sea going vessels require 36, so you have some technical problems which most businesses do not want to come in for a half a load and that is about what it requires. But Georgetown had not been excluded. Some of these fees that we are hearing about—and these seem to be going up every day now from the port authority—and I think our next step is to get with the port authority and explore these possibilities. The export out of Savannah is a very real possibility. There is storage space there. There is a handling system to handle the chips. It is very difficult—a lot of people have suggested the Massey coal facility in Charleston but this gets into a lot of cleanup, a lot of carbon in the chips, a lot of handling problems and if we can do it otherwise, that is the approach we will probably take.

Mr. TALLON. Please explore with the port authority every possibility to use the Port of Georgetown because they are specialists in break bulk cargo and that is what we are trying to do over there.

I guess finally, Scott, the legislation that we have proposed, of course, for reforestation and site preparation and such other timber stand reestablished practices as may be prescribed by the Secretary have sort of gone through an unusual process in the Congress. John Spratt and myself worked to get it included in report language in a bill that was moving through the Appropriations

Committee and we have got some ideas working with the chairman of this subcommittee on how we could get it authorized and if we do not run into a problem with OMB, possibly this would be made available. Now, we have heard testimony that cost share may be a problem. This was a model program based on the Forestry Incentive Program that is already in place and I hope maybe the task force might look at areas where the state could possibly help with this cost share to private landowners if that became a problem because to do anything other than stay on the track we are on right now with this legislation before we run out of time this year will probably be impossible.

Mr. WALLINGER. Thank you very much, sir. We will look at that as part of the council's agenda. I think the key thing is to recognize that there are many different programs that can serve as delivery systems even if they have not been used for that purpose historically. At least the machinery is in place and I think that it is going to take a lot of different kinds of programs and delivery systems to address the needs of different landowners, that the casualty loss will help the landowner who has a substantial income and therefore has a percentage income to take it against. It will not help the landowner at all who does not have income that is significant to take a break against. So we are going to need a variety of programs. I think we are going to need both Federal and State programs. Thank you.

Mr. TALLON. Thank you, Mr. Chairman.

Mr. OLIN. Does the gentleman from Alabama have a short question.

Mr. HARRIS. I just want to mention and Mr. Gould, I am sure you are aware of this, that our office has been working with the State Forestry Association in getting the legislation prepared that—we call it the Firefighters Mobilization Act of 1989 but working through not only our association but through our volunteer fire departments that are scattered all I am sure through South Carolina as they are in Alabama and other states to try to have a force out there to fight the fires. I know in your area much like mine and the other members of the panel that more and more people are building out into the rural areas and it is not just a question of protecting the forests but also of trying to protect the homes so we will look forward to working with you, and I hope you will help us. I am sure most of your members will probably be on our bill but any encouragement you can be in that regard, I certainly would appreciate it because I think it is something that is worthwhile.

Mr. GOULD. Yes, sir, we are aware of that and we are very much behind that effort because we work very, very closely with our rural fire units which are active in most areas of the State to a great extent.

Mr. HARRIS. Thank you, Mr. Chairman.

Mr. OLIN. Mr. Spratt, do you have additional questions?

Mr. SPRATT. Let me follow up with some of the things that were mentioned. First of all, a mention was made of a $30 million request for FEMA for working capital. Can you elaborate on what that spending request was for? I think it was you Mr. Lupold who mentioned it.

Mr. LUPOLD. Yes. We have met with FEMA. We met with FEMA last Wednesday. We have a meeting tomorrow at 10 in the Sol Block building, an agricultural subcommittee hearing. Our approach was to any funds that we could raise as working capital for storage; in other words, small businesses, landowner cooperatives.

Mr. SPRATT. Would you in turn lend this money to them for storage purposes.

Mr. LUPOLD. That is right.

Mr. SPRATT. And you would take back a note or some evidence of the debt and you would pay FEMA back once your debt was returned?

Mr. LUPOLD. That is correct. And we had suggested to the Governor's office that this be administered through JETA, who is in the business of analyzing profitability and soundness of businesses to do this. The council would look at it from a technical standpoint as to whether the entity had the capability to handle this type of facility or not.

Mr. SPRATT. This would be solely for private storage though?

Mr. LUPOLD. That is correct.

Mr. SPRATT. And it would augment what the Federal Government is doing in the Francis Marion Forest toward storing and holding off the market temporarily?

Mr. LUPOLD. That is correct. We had also requested that, particularly in wetlands, coastal plain logging, you just cannot do it with the average equipment sometimes, particularly as wet as it is, and with the urgency to get the material out of these wet lands. So with certain loggers, with certain types of equipment, we might be able to make some equipment of that type available to achieve this.

Mr. SPRATT. Do you have a response from FEMA, any kind of preliminary indication of how it might be treated?

Mr. LUPOLD. Well right now, it appears that if we cannot tie it to public safety and public health, we are dead. Hopefully maybe they have come back with some other efforts. We tried to encourage them that anything we can do from a salvage effort will reduce the fuel, will gain access and will reduce the fire hazard and would improve things from a public safety standpoint.

Mr. SPRATT. Have you made this request in written form?

Mr. LUPOLD. Yes, sir, we have.

Mr. SPRATT. Could you submit that for the record of this hearing?

Mr. LUPOLD. It is in this book right here, sir.

Mr. SPRATT. Good.

Mention was also made of a forest land bank. What specifically are you talking about there?

Mr. LUPOLD. Well I do not want to pre-empt what Mr. Sullivan is going to present. We got a draft copy of a bill that Senator Mitchell and Senator Dole were preparing on Friday, and this was sort of an omnibus bill for Hugo and we were asked by the Governor's Office to submit recommendations to that bill. One of the things—$100 million reforestation is in the body of that bill, and we also suggested that a $200 million set-aside be set up for a forest land bank type of recovery. Perhaps this could be in lieu of the casualty, if that is not possible.

Mr. SPRATT. This would be long-term loans for reforestation?

Mr. LUPOLD. Well it would be—weil let us use the mechanism that is in place for CRP with the ASCS offices, and timber land owners would apply, they would have damage from Hugo and they would bid in at $20, $30, $40 an acre for 10 years.

Mr. SPRATT. Is your request for fire prevention equipment and fire prevention assistance—both of you spoke of North Carolina's and South Carolina's request to the Forest Service. I think South Carolina is $5.8 million request and North Carolina $2.6 million request. Are those requests also submitted for the record of the hearing in the book?

Mr. LUPOLD. Yes, sir.

Mr. SPRATT. Does that represent your estimated need to meet the circumstances or is that simply a stop-gap request for the time being? In other words, is this a fully formulated forest prevention program that you are asking assistance with or would you ideally seek and desire more help from the Forest Service?

Mr. GOULD. As far as the contract equipment that we would be requesting, it would probably need to be renewed over a period of 2 or 3 years. We anticipate the fire situation to be with us for at least 2 to 3 years.

Mr. SPRATT. But if these requests are fully answered, will you have all that you need or what you think is satisfactory and adequate for the circumstances?

Mr. GOULD. On the renewal portion of contract equipment and on air tankers and so forth, that would have to be upgraded, yes, sir.

Mr. WALDEN. In the case of North Carolina, if I could say, I would have to call that a—basically what would be called a stop-gap measure anticipating this spring, which is routinely our most severe fire period. It is trying to supplement existing forces to deal with the real severe situation that will develop. But in terms of long-term clearing the area and handling over the next several years, it will take additional resources than what is requested in here.

Mr. SPRATT. Time is short but I just want to ask one final question about the Francis Marion Forest marketing. In your opinion is the marketing of sawtimber out of the Francis Marion Forest having an adverse effect on the market, is it preempting logging crews, rail cars, making it more difficult for private timber owners, individual timber owners to realize value and volume in the South? I will put that to the whole panel and ask for a candid response.

Mr. GOULD. I may respond first and then I think Scott has some items to add. It would be difficult to tell until all the sales are really outstanding. I understand that they have not been able to complete some sales that no bids have come in, so until we see the final impact of all of these sales, it would be difficult to actually give an estimate of the total effect on the market.

Mr. WALLINGER. Geographically, the Francis Marion National Forest of course is quite concentrated, one-quarter of 1 million acres in a narrow area, and there is extensive damage in the whole area. And if they were able to carry out a salvage program in proportion, there is no question that it would have a significant effect at the local market. Their decision agenda that was originally filed

gave them authority to attempt to salvage 250 million feet which is the equivalent of 5 years harvest off of the national forest.

Of course there is no property that had damage probably over that large an area that compares to what the national forest had. And even if they were successful in salvaging that large amount, they would still only get a small portion of the value. I think that the proof of the pudding, so to speak, in the last 2 or 3 weeks has been the fact that they offered 50 million feet and they have only had a very small portion of that that has been bid in because the timber has been so extensively damaged and because the Forest Service has much more stringent requirements in its contracts than most private landowners have.

The council has asked the Forest Service to consider using its capabilities, however, and they have responded in looking at water storage and in looking at the possibility of structuring sales in such a way that it might make it attractive for logging crews to come from outside of the area so that it would not impose on the existing logging capacity, and they are looking at that as part of the new plan that they are setting up.

Mr. SPRATT. You mentioned antitrust problems or constraints. Is that a constraint on your making some sort of coordinated effort about marketing the Francis Marion timber?

Mr. WALLINGER. I do not think it is a constraint within the framework of the way the council is trying to operate, which is to apprise markets in adjoining States that there is wood to be obtained here, and working with railroads to attempt to get rail car availability up so that wood can move. What we cannot do, of course, is to sit down with a group of industry people and say, "now all of you agree to move in here and pay this price," or, "this paper company will pull its wood out of this area if another paper company will pull its wood out of another area," sort of thing.

But at the moment, the effort is to apprise the local markets that there is wood available, loggers come into the area and want to know who do I talk to to get in touch with someone who has got some timber and how do I find a marketplace. We were talking to a wood dealer last week who has opportunities to ship wood to markets in southeast Georgia and north Florida if he could get a switch and get a rail siding opened up so that he could reactivate a siding.

So what we are essentially trying to do is eliminate those barriers. I do not think at the moment that antitrust is a problem, but we have to be careful to keep our skirts clean.

Mr. OLIN. The gentleman from Missouri has one final question for the panel.

Mr. VOLKMER. Yes. I would ask Mr. Gould and Mr. Walden—one of you or all of you together—to give me some information that I think is basic as far as private forest owners are concerned. I would like to have an idea about how many do I have in South Carolina and North Carolina that have acreage say of under 100, how many of them have acreage 100 to 500, 500 to 1,000 and those over 1,000. Do you have any idea, any information anywhere that you can get that for me and get it to me in the next day or two?

I am not asking for it right now, I am just wondering if you can get it for me. I do not want names, I just want numbers.

Mr. GOULD. I feel that we can get you some numbers that would approximate those.

Mr. VOLKMER. Yes, I am not saying exactly, just approximately.

Mr. GOULD. I think we can do that.

Mr. VOLKMER. Under 100, 100 to 500, 500 to 1,000 and over 1,000. Thank you very much.

Mr. OLIN. The committee would be pleased to receive that information.

[The information follows:]

South Carolina Forestry Commission

November 13, 1989

The Honorable Harold L. Volkmer
Chairman
House Agriculture Subcommittee
on Forestry, Family Farms and Energy
Longworth Building
Washington, DC 20515

Dear Representative Volkmer:

Let me first express my appreciation and that of our entire agency for the interest that you and your committee has shown regarding the wide spread damage to the forest resource in South Carolina.

The support of your committee is essential in obtaining the reforestation, tax relief, and fire protection needed for our citizens and woodland owners.

You requested a breakdown of South Carolina landowners by size (acres) of ownership, and these statistics are attached for your reference. If any other information is needed, we will attempt to provide it for you.

Again, our sincere appreciation to you and your committee members for the interest you have displayed, and the assistance rendered.

Sincerely,

Robert J. Gould
Acting State Forester

RJG:lb

attachment

cc: Representative Tallon
Representative Spratt
Scott Wallinger
Bob Scott
Boris Hurlbutt

NUMBER LANDOWNERS BY ACRES SIZE CLASS IN HURRICANE HUGO AREA

County	0-99	100-499	500-999	1000 +
Berkeley	3587	378	51	35
Calhoun	2086	562	35	6
Charleston	2185	287	40	27
Clarendon	2915	674	48	25
Darlington	2982	832	38	22
Dillon	1017	545	45	13
Dorchester	2726	487	31	12
Fairfield	1748	573	63	23
Florence	3462	930	58	33
Georgetown	1926	342	61	60
Horry	2648	898	48	32
Kershaw	2800	874	74	36
Lancaster	2392	478	39	8
Lee	935	285	13	2
Marion	1850	498	47	22
Marlboro	1768	492	72	52
Orangeburg	3170	574	31	5
Richland	4416	440	26	30
Sumter	1289	301	20	17
Williamsburg	4331	1050	96	35
York	1150	580	37	22
Chester	1062	796	52	32
Chesterfield	4278	887	58	12
Totals	56,723	13,763	1,104	648

Total All Classes 72,238

Mr. OLIN. I want to thank the panel for your excellent testimony. Did you want to say something else, Mr. Gould?

Mr. GOULD. Yes, sir, Mr. Chairman.

I know we have talked a lot about wildfire and the situation which is one of the more critical things that we are addressing today. We have with us today the county ranger from this county, where some of the most severe damage occurred. His name is Mr. Mike Maggard, and he is available for a 5-minute briefing if you need that.

Mr. VOLKMER. Mr. Gould, I have already read his statement. But if we have time before we have to leave, I am sure he will be called.

Mr. GOULD. Thank you, sir.

Mr. OLIN. I thank the panel very much.

We have been joined by the Senator from South Carolina, Mr. Hollings. I would like to say to the Senator that the Chair appreciated some years ago, the Senator came to Virginia and did the Chair a slight favor and I am very pleased now to be in South Carolina and possibly find some way to return the favor.

STATEMENT OF HON. ERNEST F. HOLLINGS, A U.S. SENATOR FROM SOUTH CAROLINA

Senator HOLLINGS. Yes, Jim, you can help us out. Jim Olin leaned over to Robin Tallon and said "Hollings is the senior Senator, is he not?" Mr. Chairman, I just look that way.

I am delighted to be with you. I want to thank you, Chairman Volkmer and the committee, our distinguished colleagues from the House, and particularly our friend Congressman Tallon, for setting this up.

To get right to the point, we have got 2 weeks, we have got a lot of work to do, and it cannot be done unless we compromise and get the best we can along with our friends who were victimized by the San Francisco earthquake. An omnibus disaster bill is being drawn up in our office right now with the help of the Senate leadership. We are trying to get loose ends tied up, and we hope that this bill will go through by unanimous consent both in the House and in the Senate. We have already provided for emergency timber salvage operations, but it would be unfortunate if they did such a good job that they ended up depressing the market.

We have been trying to get the Forest Service to act with caution so as not to destabilize or distort the market. We have got further provisions in the omnibus disaster bill for reforestation and timber removal.

We are also honored to have here our distinguished Congressman from York, John Spratt. John, I know you agree that the main problem is to get our family farmers fixed up. Seventy percent, Chairman Volkmer, all the timber in South Carolina is in family farms. Now the original price of a stand of timber might have been $5,000 25 or 30 years ago, but now it is worth $50,000. Yet, FEMA and IRS say that the worth of the timber is valued just on the basis of what it was worth 25 years ago. This is nonsense. The timber has been used to put up collateral with the bank to get seed to plant, or it is being held in reserve to send a kid to college.

Under the Constitution a revenue bill can only originate in the House of Representatives, so you have the right group here to discuss taxes. They have the authority to originate it. I have introduced a bill in the Senate, but the House will throw it out if we send it over, so——

Mr. TALLON. Blue slip it.

Senator HOLLINGS. Yes, blue slip it, as Robin says.

Mr. TALLON. Whatever that means.

Senator HOLLINGS. Yes. But on our side too, we are embroiled in a capital gains fight. We have to work out some way to take care of these family farms and to get reforestation assistance. Furthermore, the Emergency Conservation Program of ASCS needs more money, Soil Conservation has, run out of money, and we have to get funds to these agencies.

So I appreciate the opportunity to listen. I learned a lesson years ago when I was in the South Carolina Legislature when we passed the sales tax. It has been in place long enough now that Governor McNair can pick his head back up because he helped pass that blooming thing. I made 79 talks and Matthew Poliakoff asked if I would yield for a question. I said I would be glad to yield. He said "The trouble with you, Hollings, is you have an impediment in your speech." And coming from Charleston, I thought I knew what that was, so I said, "What is that?" He said, "The trouble with you is you cannot listen." [Laughter.]

So I have come to listen to you folks and I appreciate our distinguished colleagues in the House for hearing me out this morning. Thank you very much.

Mr. VOLKMER. Thank you very much for your words, Senator, we appreciate you being here. You may stay and join us as long as you wish.

I would like to now start our next panel; Mr. Bill Sullivan, regional manager, International Paper from Georgetown, South Carolina; Mr. E. Craig Wall, president, Canal Industries, Conway, South Carolina; Mr. Calhoun "Cal" Umphlett, president, Umphlett Lumber, Moncks Corner, South Carolina; Mr. Johnny Ward, W&W Truck and Trailer, Moncks Corner; Mr. Lucas Dargen, forestry committee, South Carolina Farm Bureau, Sumter and Mr. Bartow S. Shaw, Jr., forestry consultant from Sumter.

If you have a prepared written statements, it will be made a part of the record, and you may either summarize your statement or you may review it in full so long as it takes less than 5 minutes—no longer, because we are running out of time. We may not be able to ask you very many questions. If we have some, we may submit them to you later in writing, in order to try to move this hearing along.

So at this point, we will begin with Mr. Sullivan.

STATEMENT OF BILL SULLIVAN, MANAGER, EASTERN REGION LAND AND TIMBER GROUP, INTERNATIONAL PAPER, AND CHAIRMAN, SOUTH CAROLINA FORESTRY ASSOCIATION

Mr. SULLIVAN. Thank you. My name is Bill Sullivan, I am regional manager of the eastern region land and timber group with International Paper in Georgetown, South Carolina. I appear before this

committee, however, as chairman of the South Carolina Forestry Association. The Forestry Association is a private conservation organization with a membership of 1,800 composed of private and industrial landowners, lumber mills, foresters and others who share a common interest in the forest resource. As has been mentioned earlier, forestry is the third largest industry in South Carolina.

There has been a lot of discussion already this morning on the enormity of the hurricane and I will omit those from my remarks. I think it is worth remembering a point that Mac Lupold made earlier that the devastation of Hugo equals more than Camille, Mount St. Helen's and Yellowstone all put together. I think it is worth making this comparison to illustrate that we are dealing with an unprecedented challenge that calls for prompt and decisive action from Congress.

Because of the limited time, I will briefly address three areas of need by farmers and woodland owners as a result of Hurricane Hugo's devastation to their timber. We commend Congressman Tallon and other members of the delegation for introducing the Hugo Forestry Restoration Act. This bill is similar to the Federal Forest Incentive Program, FIP, which has successfully provided over the years cost share assistance to landowners for site preparation and planting. The association supports the Forestry Restoration Act; however, we do recommend that cost share assistance be increased from 75 to 90 percent on 1,000 acres or less and from 50 to 65 percent for 1,000 acres or more. The increase can be justified on the basis that site preparation and tree planting expenses would be as much as 2½ times a normal amount, due to the excessive debris, that is the fallen timber and so forth, and the difficulty of using mechanized site preparation and planting equipment.

For example, under normal site preparation, tree planting costs, normally this is about $100 an acre. Under the Forest Incentive Program, private landowners would pay $50 and this would be matched by a $50 cost share.

In the disaster area though, the cost could reach $250 per acre and you can see this would be a much larger out-of-pocket expense to landowners.

The association also supports the Hurricane Hugo Tax Assistance Act sponsored by Congressman Spratt and Senator Hollings. This bill would allow tree farmers to deduct their total losses in determining the investment basis for casualty loss. As mentioned earlier—and Senator, you alluded to this—the problem of the family tree farm is that many of the present owners have little or no basis. Under the present law, if your timber has no basis, then you have no deductible loss. We strongly support legislation which would allow a special casualty loss for the actual damage to the landowner without regard to basis.

Congressman Tallon, you mentioned earlier—had the question about how could this be dealt with, and it is complex, but it seems to me that, first of all I believe there is adequate resource in the State through the consultant foresters that work and live in the State and other agencies, to properly advise and if you will, educate the landowner as to the IRS implications. And it seems to me that one method that might be used to determine the basis would be the market value pre-Hugo. We are aware that there is opposi-

tion in Congress toward altering the Tax Code to provide tax relief to disaster victims, but surely an exception could be made in the case of Hugo, which as has been pointed out is the greatest timber disaster in U.S. history.

In addition to the Forestry Restoration Act, we strongly recommend a plan similar in concept to the Conservation Reserve Program, CRP, to maintain our forests and environmentally sensitive areas with respect to timber, wildlife habitat and watershed protection in the disaster assistance area that suffered losses as a result of Hurricane Hugo. Such private, nonindustrial landowners should be allowed to bid into the program similar to CRP. Since CRP has a successful track record and the mechanism is already in place, we propose to use the existing ASCS framework to satisfy the immediate financial needs of tree farmers, many of whom have only received 10 cents on the dollar for their salvaged timber. The net loss to forest landowners is approximately $900 million less an estimated basis of $100 million that they will receive in salvage payments, this leaves a net $800 million loss. Using the timber crop disaster payment estimate of 25-percent loss, this would provide a $200-million cap under the proposed forestry CRP concept.

Mr. Chairman, thank you again for the opportunity to appear before your committee. We have a long ways to go to recover from Hurricane Hugo and since it is obvious that current Federal laws do not provide much help to the tree farmers who suffered heavy loss, please do all that you can to assist the victims of Hugo.

Thank you.

[The prepared statement of Mr. Sullivan appears at the conclusion of the hearing.]

Mr. VOLKMER. Thank you very much, Mr. Sullivan. We will hold off our questions until all the panel has testified.

At this time, I would like to hear from Mr. Umphlett.

STATEMENT OF CALHOUN W. UMPHLETT, PRESIDENT, UMPHLETT LUMBER CO., INC.

Mr. UMPHLETT. Mr. Chairman, committee members, I would like to thank you for this opportunity. I am Calhoun Umphlett, president and general manager of Umphlett Lumber Company of Moncks Corner, South Carolina. It is a small family-owned business concern that has been in existence since the mid-1950's.

The last year and a half we have experienced two major catastrophes. The first was a fire in February 1988 which destroyed 75 percent of our production. The second was Hurricane Hugo on September 21 of this year. After the fire, we built a new sawmill using the latest technology. It was completed in June of this year. July 3 of this year we began production and production has been increasing toward our goal of 20 million feet a year.

Hugo caused damages to our drying and planning operation or dressing operation between $500,000 and $700,000 and it also destroyed a large part of our timber supply and most of the Francis Marion National Forest. We are convinced that we can operate successfully in the future by extending our procurement area to a radius of approximately 60 miles. In the past we have operated mostly a 40-mile radius east of Moncks Corner.

It is our feeling that the timber damaged by Hugo will last approximately 6 months in the forest before insects, blue stain and decay will render it unfit for sawtimber. During this time we plan to utilize storm damaged timber for operations and for building a log inventory. This inventory will carry us through a 6 to 8 month transition period and we estimate this period will last from about May 1990 to December 1990. This transition inventory will be kept under a water spray system, which will protect logs from insects, blue stain and decay for 6 months or longer. After December 1990, we hope that timber sales will once again begin to take place in this area.

This inventory financing would be repaid as the inventory is depleted, probably by December 1990. Our future depends on obtaining low cost financing to store these logs. The cost of this inventory is estimated to be between $1 million and $1.5 million. We urge that you make available to small business lumber manufacturing concerns low cost funds to carry them through this transition period, encourage the construction of U.S. Forest Service log storage areas and encourage U.S. Forest Service to defer timber payments until time of manufacturing. And I understand this has been done in the past on the west coast and it may be being done currently.

I would like to thank you for this opportunity to testify this morning.

[The prepared statement of Mr. Umphlett appears at the conclusion of the hearing.]

Mr. VOLKMER. Thank you, Mr. Umphlett.

We will now hear from Mr. Shaw.

STATEMENT OF BARTOW S. SHAW, JR., FORESTRY CONSULTANT, SHAW, McLEOD, BELSER, AND HURLBUTT

Mr. SHAW. Mr. Chairman, other members of the committee and other members of the delegation from South Carolina, my name is Bo Shaw. I am a consulting forester with Shaw, McLeod, Belser and Hurlbutt, and I have been providing forestry services for nonindustrial, private forest landowners for the past 23 years. Our firm manages approximately 300,000 acres ranging in size from 10 acres to 40,000 acres out of three offices in the area that was affected by Hugo.

You are familiar with the estimates of total damage to timber and the estimates of probable salvage. While the total value of timber damage for nonindustrial private landowners must rank near the top of South Carolina's uninsured losses for all time, a closer look at the many, many individual devastations better indicates the true magnitude of the disaster.

For example, we manage timberlands for several owners with after-salvage losses exceeding $1 million each. Some of these, as well as many more who had much smaller holdings, made previous commitments for investment in timberland based on the ability of the property to generate enough cash return to combine with a portion of job income to make loan payments and reforest cutover areas at the same time. Loss of the ability of the property to produce income will certainly result in loss of the property.

We have several clients with very limited fixed incomes in the later years of their lives. That income previously included periodic harvesting of trees, but in most cases it also included taking part of that income for reforestation for future generations.

Many landowners have invested life savings in the planting of trees for retirement income. A high percentage of such cases in which we are involved have sustained damage which included broken trees rather than those blown down intact. This adds to the value loss, and most of these retirees are now looking at salvaging 1 or 2 years of income rather than 10 or 20 years of income.

The summary of examples could continue, but I am sure you will hear of many as this testimony continues.

Up to this point it must be said that the landowner has taken the brunt of this entire timber disaster. The best case scenarios put overall salvage at 25 percent of volume and 10 percent of pre-Hugo value. Because the average private, nonindustry timberland ownership in South Carolina is less than 100 acres, this category of ownership will likely be looking at even bleaker prospects. If these tree farmers are to maintain any sense of confidence in the forest products system to which they supply well over half of the raw material, both the forest industry sector and the public sector must take on a larger share of the burden.

Although the nonindustrial private landowners have a tremendous collective impact on the forest resource, individually it is very difficult to secure the magnitude of additional logging capability, to provide the volume of log storage, and to put in place the other means needed to make a significant impact. In my opinion, the forest industry could expand its role through such activities as:

Voluntarily declaring a moratorium on company-owned land for at least 2 years on new sales of undamaged trees and trees from areas unaffected by Hugo when such harvesting affects those mills which can be economically supplied by damaged trees. That is, let us cut down on the number of good trees going into the mills.

Providing incentives for loggers delivering material from areas on which a manageable residual stand of undamaged trees is being left.

Taking on a greater share of the risk of salvaging damaged timber through stronger commitments for logging tracts.

And looking beyond the present scope of assistance by further utilizing their regional and national systems to provide additional logging capacity, storage capacity, and other possible means of accomplishing a greater percentage of salvage, even to the extent that losses may occur on some operations.

Private, nonindustrial landowners understand the basic laws of supply and demand and how the market responds to supply and demand. In most cases, however, they are looking at all or almost all a total loss of a generation's worth of input into providing forest resources of a significant portion of our State. It will take a new determination and commitment to develop that new resource, and these landowners are weighing the responses of the industry as well as the public sector.

The public sector must respond as well. By not being included in any agricultural disaster programs, timberland has a unique exposure to such destruction and loss.

We all appreciate the efforts made by the South Carolina congressional delegation and others in Congress to provide assistance for the entire forestry community at this time.

It is my opinion and that of several others that legislation should first address the immediate problem of salvage, loss of value, and loss of short-term income. Reforestation surely must follow and attaching reforestation to any package certainly makes it more plausible. However, many smaller landowners eligible for reforestation assistance or even CRP-type assistance may not have the relatively small percentage of out-of-pocket payment required to get into such a program unless the salvage needs and some assistance for loss of income are met. Another concern is the cost of reforestation, which has already been mentioned a couple of times previously. We have closely examined areas which have been salvage cut, especially those areas with uprooted stumps; and we believe that the site preparation component of reforestation will easily be twice the normal cost. The estimated 75 percent unsalvaged timber will present additional preparation problems, both from the standpoint of mechanical preparation and of meeting voluntary smoke management guidelines. A 25-percent share of reforestation by the landowner could easily exceed $100 per acre, which may prove difficult for many.

I have worked particularly with Representative Spratt on the Tax Assistance Act, which was proposed as well by Senator Hollings. Raising the limit on casualty losses beyond basis and the "involuntary conversion" reinvestment in reforestation or mortgage debt payments will provide cash to the landowner without funding and with minimal tax revenue effect. The reforestation assistance proposals as well as other proposals by other members of the delegation offer assistance as well. Most of us learned of the Mitchell-Dole amendment this past weekend, and the Forest Land Bank Program would particularly help provide the front-end needs through CRP-type payments. We feel an urgent need to move ahead with legislation that best meets the needs of those with losses and at the same time has a reasonable chance of passage with bipartisan support.

Finally, while the U.S. Forest Service sales have "gone begging" for the most part, the lowered minimum bids continue to be benchmarks which spill over to private timber transactions. At a time when we were negotiating sales for $85 to $125 per thousand board feet right after the storm, the advertised minimums for the Forest Service was $65 to $75 per thousand; and they have been reduced to about half that for recent sales. The Francis Marion sales and private sales are of considerably varying characteristics with the marketplace obviously being influenced by logging restrictions, harvesting commitments, advance payments, and other such factors.

More recently the Forest Service has shown a commitment to seek supplemental means of aiding the salvage which will help reduce its effect on the marketing of privately owned timber as well as increasing its ability to salvage more Forest Service timber through log storage and chipping operations. We support that effort and suggest further expansion of that proposal to assure a minimum influence on private timber marketing by U.S. Forest Service sales.

I thank you for the opportunity to present these views. While they are my own, I have attempted to represent the interests of the tens of thousands of private landowners so devastatingly affected by Hurricane Hugo.

[The prepared statement of Mr. Shaw appears at the conclusion of the hearing.]

Mr. VOLKMER. Thank you, Mr. Shaw. Mr. Ward.

STATEMENT OF JOHNNY E. WARD, PRESIDENT, W&W TRUCK AND TRACTOR CORP.

Mr. WARD. My name is Johnny Ward, I am president of W&W Truck and Tractor here in Moncks Corner and also a tire company. I apologize for not having a written statement but I was out of town last week and I did not realize I was going to be on the panel.

Anyhow, my concerns are the equipment manufacturers were running a limited amount of equipment before this hurricane happened. There is a shortage of logging equipment around the hurricane area. It is hard to get the equipment, some of it is running as much as 6 to 7 months out when you order it.

I think where we could get some help would be if we could get some encouragement from Washington to the equipment manufacturers to maybe switch some equipment that goes into other parts of the world to come into South Carolina and North Carolina to the dealers in that area, because the other folks—most of it is replacement equipment and they can run the one they have a little longer.

Also the same with the wet areas we have. We have real wet lands here. There is a limited amount of big rubber tires to go on this equipment that will really go into this wet area and get this wood out. At this time I do know that Firestone is one of the large manufacturers of it and a lot of their production is going into Canada. With the right people behind it, I think we could switch some of that over to stay in the United States where you could buy some of these large tires and go in and get some of this wood out.

But I really do not have a long statement.

Mr. VOLKMER. That is fine. You have given us some ideas that we had not thought about. Thank you very much.

Mr. Dargen.

STATEMENT OF LUCAS M. DARGEN, CHAIRMAN, FORESTRY COMMITTEE, SOUTH CAROLINA FARM BUREAU

Mr. DARGEN. I am Lucas Dargen from Darlington. I am a consulting forester from Darlington, not Sumter as they have here, and I am currently serving as chairman of the forestry committee of the South Carolina Farm Bureau. I am here representing the Farm Bureau.

I will first read a brief statement of Farm Bureau's position and then I would like to make a few comments.

The Farm Bureau executive committee adopted this about 2 weeks ago—the executive committee recommends that the South Carolina Farm Bureau work closely with all agencies and groups in assisting producers of all agricultural commodities who suffered damages due to Hurricane Hugo. This effort should include the

seeking of relief in the form of grants, tax credits, low interest loans, full funding of Government relief programs, expediting of salvage operations, equitable prices for damaged product and all other efforts, governmental and private, to restore the agricultural community.

We further recommend that Farm Bureau use its resources; newsletter, the media, county meeting and all other means at its disposal as a conduit for information on this matter to the public.

We feel that Farm Bureau probably is one of the best agencies to reach the small landowner. We have approximately 97,000 members in the South Carolina Farm Bureau with chapters in each county, two chapters in Horry for some reason, and we have a monthly news—considerable newspaper that goes out to South Carolina farmers. So we feel that probably our greatest function is to try to reach the small landowners with the information and urge action to cooperate with the programs that are being promoted by the Governor's Disaster Forest Salvage Council, and others.

We feel probably—these are some points that we want to work on particularly. Most of them have been mentioned here several times. Moving salvage timber out of disaster area. I think we all agree that is vital to achieving a reasonable level of salvage.

We plan to work through the county Farm Bureaus and the Farm Bureau paper to get farmers and small landowners to prepare for fire protection. We feel that that is certainly one of the great hazards resulting from this hurricane. They need to go in and clear fire lanes, establish new fire lanes, make it so they can fight a fire if it gets started. And we are urging everyone—our consulting foresters generally—cutting no green timber that does not have to come out. We just feel that it is very important for everybody to hold timber off the market if it will keep.

We feel that this disaster strongly illustrates the need for special tax treatment for long-term capital gains—I mean long term. I am not talking about trading in stocks in 6 months or 1 year or speculating in land, but for people that hold assets for 30, 40, 50 years and longer, we feel clearly not only the erosion of inflation on it but the hazard that over a 50-year period, you face natural disasters such as ice storms, hurricanes, floods and the like.

We strongly support reforestation among our members through our news media and probably our Farm Bureau's most important role in this is to keep the small landowners informed through the county meetings and through our monthly publication.

Thank you.

Mr. VOLKMER. Thank you very much, Mr. Dargen.

Mr. Ward, would it be possible for you to make up a list of equipment that is in short supply, size of tires and all that sort of thing, and send it to Congressman Robin Tallon's office in the next day or so, so that we can have that and we might be able to do something? We cannot make private industry do anything, but we might be able to influence them somewhat.

Mr. WARD. Yes, sir.

Mr. VOLKMER. I have no further questions. Does the gentleman from California have any questions?

Mr. HERGER. No.

Mr. VOLKMER. The gentleman from Virginia.

Mr. OLIN. No.

Mr. VOLKMER. Alabama.

Mr. HARRIS. No.

Mr. VOLKMER. The gentleman from South Carolina, we will start with this gentleman first.

Mr. TALLON. The Senator?

Mr. VOLKMER. No, this is your district, this is a House committee, then we will go to the Senator.

Mr. TALLON. Whatever you say, Mr. Chairman. Senator, that was his decision.

All I want to do is thank the panel very, very much. This has been very good testimony. I appreciate so much all of you being here and the interest you have shown. And certainly my job is to find ways to do things. The Conservation Reserve Program has been mentioned by a number of witnesses. We have been looking at this time for a month and of course the problem we run into with the current program is highly erodible land, land classification, and trying to work with that and see what we can do, but that would provide some immediate relief to the small timber grower, and that is an area that we are really interested in and we will continue to look at it.

I just appreciate your testimony. Johnny, we will look forward to getting that list from you and see if we can—with the help of Senator Hollings—persuade some folks to be a little more sensitive to our needs here.

Thank you.

Mr. VOLKMER. Senator Hollings.

Senator HOLLINGS. Thank you, Mr. Chairman.

We need not only the companies selling domestically but those companies that are shipping overseas as well as companies manufacturing equipment. And I think they would be cooperative.

Mr. WARD. I really think they would too.

Senator HOLLINGS. We might be able to get some help on that right away. I have copies of the other statements and I would like to get a copy of yours too before I go.

Mr. Chairman, I was in Jamestown and in the forest early this morning. They asked me to come down there, and I understand you folks are going to fly over it before you leave. You will get a good view of the devastation then.

Thank you very much.

Mr. VOLKMER. OK; the gentleman from South Carolina.

Mr. SPRATT. Just quickly. Senator Hollings and I introduced a tax bill, as you are aware, and we have run into some objections to it because the professionals on the Tax Committee are concerned about the potential for fraud whenever it measures fair market value, which is what we are trying to establish. Do you have any idea how well that could be handled?

Mr. Shaw, I have dealt with you particularly on this. Would you make some comment into the record about how well we could establish the fair market value of damage as opposed to the investment basis of damage for casualty loss?

Mr. SHAW. Well, we had discussed, of course, first of all that the damaged timber—the affected timber—would be the only timber which would be included in that; and the value before Hugo could

be established as a fair market value, also, from records, from salvage records, and conversion records from the actual salvage. In fact, we have already begun doing that right now where we have salvage information and an estimate of downgrading product classes. For instance, how much sawtimber was lost because of breakage and it becomes pulpwood? There is some pretty good hard evidence, backup evidence.

The South Carolina Chapter of the Association of Consulting Foresters has already met and discussed formatting an appraisal process to make it uniform. I think that would go a long way in applying a uniform code type of thing to the appraisal process and maintaining some degree of integrity about the process itself.

Now of course it is going to be so widespread and so much volume, it is going to be difficult to get around to all of it.

Mr. SPRATT. You have expressed the opinion to me that the tax relief at this particular point in time is probably more important that the reforestation assistance.

Mr. SHAW. Right.

Mr. SPRATT. Do the others on the panel share that opinion?

[All panel members nodded in assent.]

Mr. SPRATT. I hope the record will show that everybody nodded affirming that. Would anyone care to make a statement about it?

Mr. TALLON. If the gentleman would yield.

Mr. SPRATT. Yes.

Mr. TALLON. The tax relief is vitally important. The reforestation—the bill, the site preparation part of the bill that would allow debris cleanup to avoid these wildfires is—you know, I do not know how we can hardly put one on top of another.

Mr. SPRATT. No, I am not trying to place priorities. I think both have to be passed, but just getting their opinions about it indicating that this after-tax income which you are able to realize from the salvaging is critically important, just to have the cash to get the reforestation program off the ground.

Mr. SULLIVAN. I was just going to emphasize that without it or something like that, the reforestation program will be less than complete or less than what it ought to be.

Mr. VOLKMER. With that, we will conclude this panel. I thank all of you for your very helpful testimony.

I would like to have Dr. Rudolph Rosen, Southeast office director of the National Wildlife Federation. Dr. Rosen, I appreciate your testimony, it has been received by the committee, it will be made a part of the record in full and I would appreciate it if we could summarize.

STATEMENT OF RUDOLPH A. ROSEN, DIRECTOR, SOUTHEASTERN OFFICE, NATIONAL WILDLIFE FEDERATION

Mr. ROSEN. Thank you, Mr. Chairman.

I am Rudolph Rosen, director of the National Wildlife Federation's southeastern office located in Atlanta. I am pleased to speak to you today about the impacts of Hurricane Hugo on wildlife and forest resources in the Francis Marion National Forest.

The federation cares deeply about the management of our public forest resources. Our members are resource users. They are deeply

concerned about the impacts of Hurricane Hugo and they want to ensure that forest resources are restored as quickly as possible and in a manner that fully benefits wildlife and native plant communities.

The Francis Marion National Forest is home to the world's most important population of the endangered red-cockaded woodpecker. The forest contained about a quarter of all known colonies of the birds in the world and was one of only three viable populations. Hugo severely damaged this population. Fortunately, there is still hope to save the birds, but Congress must act now to ensure full and adequate funding to support emergency restoration and research programs designed to recover this once thriving population of the endangered woodpecker.

The red-cockaded woodpecker excavates cavities in large living pine trees. The birds live in colonies of about two to four or five birds each. Before Hugo, it is believed there were just over 2,000 active colonies in the world, of which about 500 were located here on the national forest.

Action is underway to survey damage and to locate existing birds and remaining viable colonies. Experimental work has shown that artificial cavities can be constructed in living trees and that these replacement shelters will be used by the birds.

We believe the total budget for this work—the emergency essential restoration work—will be about $600,000 over the next 12- to 18-month period.

The National Wildlife Federation urges this committee to pass an emergency Hugo relief bill or supplemental appropriation package that includes an appropriation of $600,000 for endangered species recovery such as emergency surveys, monitoring research and program management on the Francis Marion National Forest.

We will be pleased to provide a list of critical needs for the committee's consideration and discuss these needs with staff at the earliest possible time following this hearing.

Mr. Chairman, the massive land clearing wrought by Hugo has set the stage for large-scale timber salvage and reforestation. We have already reviewed the plan for salvage on the national forest and find it well designed to help protect the red-cockaded woodpecker. But there is more that can and must be done for conservation of biodiversity on the Francis Marion than just restoring endangered woodpeckers.

We must use the opportunity to restore to the Francis Marion the native and diverse vegetative communities that once existed on the forest. Most important is restoration of the longleaf pine forest, a forest type that historically extended in an unbroken band over extensive areas of the Southeastern Coastal States and which provides habitat to an unusually large number or rare and endangered plants. Portions of the Francis Marion historically were part of this longleaf pine forest.

But there are other forest communities that also should be restored to the Francis Marion to provide for a maximum of wildlife and plant diversity, as well as for the production of harvestable timber. In general, site specific ecological evaluations should be conducted for each site proposed during the reforestation process. Reforestation targets and site preparation techniques should em-

phasize restoration of native forest community types. For example, in wet bottomlands it might be found that a predominance of hardwoods is preferred. Whereas on dry sites, where longleaf is not the historic native vegetative type, perhaps a loblolly pine-hardwood mix would be best.

The National Wildlife Federation recommends that reforestation emphasize restoration of historic native vegetative communities, with particular emphasis on restoring longleaf pine on all sites that historically were longleaf pine, and that site preparation techniques should be designed to restore the natural understory vegetation typically associated with each forest type.

Mr. Chairman, we thank you for inviting us to appear before this committee. And, after listening to the committee, I understand that the committee is very interested in details. I have prepared a series of photographs that show the endangered species restoration techniques currently underway by the Forest Service, which the appropriation we discussed earlier refers to. I would like to show this to the committee at this point.

Mr. VOLKMER. Dr. Rosen, could we just look at it afterwards? We are running close on time.

Mr. ROSEN. That ends my presentation.

[The prepared statement of Mr. Rosen appears at the conclusion of the hearing.]

Mr. VOLKMER. What I would like to ask you real fast is, you are finding cooperation with the Forest Service in this ongoing effort, is that correct?

Mr. ROSEN. Yes, sir, the Forest Service has shown excellent cooperation and indeed are in the lead on this important restoration effort.

Mr. VOLKMER. I would like to say I and I am sure other members of the committee and our staff are available to work with you to make sure as we go along that there will be a continuation of this cooperation.

Mr. ROSEN. The essential ingredient at this point, sir, is the direct appropriation or supplemental appropriation to fund the work.

Mr. VOLKMER. We will be glad to work with you if you will get us the information.

I have no further questions. Does any other member of the panel have any questions of Dr. Rosen?

[No response.]

Mr. VOLKMER. Thank you very much, Dr. Rosen, we appreciate you being here.

We have a little bit of time yet for additional witnesses. I would like for the gentleman from South Carolina, Mr. Tallon, to introduce our next witness.

Mr. TALLON. Thank you, Mr. Chairman. It is indeed a pleasure for me this morning to welcome former Governor Bob McNair to testify before this panel. The Governor has been a dear friend and advisor to me, he is one of the finest citizens of the State and Berkeley County and has all his life provided capable and dynamic leadership.

Governor, welcome, we look forward to your sage comments and will certainly draw valuable assistance from your testimony.

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Mr. VOLKMER. Governor, I thank you for being here and I would just like to say we are pressed for time, and I look forward to your testimony. I would just like to announce, so you can be prepared, our next witness will be Mr. Mike Maggard, the Berkeley County ranger.

Thank you. Go ahead, Governor.

STATEMENT OF ROBERT E. McNAIR, FORMER GOVERNOR OF SOUTH CAROLINA

Mr. MCNAIR. Thank you, Mr. Chairman, I will be brief and I have no prepared statement, but as one who has grown up in this area and who is a tree farmer and a landowner in the lower part of Berkeley County, the area Senator Hollings said he came through just a moment ago, I want to welcome you and your committee and express my personal appreciation to you on behalf of all of the people here and all of the folks in this area, particularly the private landowners, for your interest in coming and visiting and really seeing.

I regret very much that you are going to have to take a helicopter tour, because I have had the opportunity of doing both. I have seen it from the air and I have seen it from the ground and unless you drive through it and ride through it, you really do not get a good view of the magnitude of what has happened here as a result of Hugo.

I also want to express my appreciation to Congressman Tallon for inviting the committee and for inviting us and giving us an opportunity to be here and to appear and to share some very brief views with you; to Senator Hollings and to Congressman Spratt who have, from the beginning worked very hard on all phases of this in order to try to find some relief.

I might put it in a little different perspective because I have listened and concur generally with everything I have heard, but although as our colleagues from South Carolina know, I fall in the category of in excess of 1,000 acres of family farm that has been in the family for all these many years, and I would like to speak more for the small landowner this morning.

I had one make a telephone call to me last week that I think pretty well demonstrates, Senator, what you and what the Congressmen are talking about. He sits in the audience, he is Mac Flood, a retired game supervisor, who called on the telephone because he has a few hundred acres and he had lost it all, and he had just discovered that day that he could not even take a casualty loss. And he said what am I going to do, that was for my grandchildren's education. That, to me, sort of focused on the real problem, and if you look at the private landowners and you ask a very important question and I do not have the answer, but I think the average holdings would be somewhere between 200 and 300 acres. You will not find a large number of large holdings, you will find some, but basically those are the ones that surround the area that I live in.

I have neighbors with 13 acres and 17 acres who call me trying to determine what they might do. And it has been estimated that 50 percent, as much as 50 percent of the number will never see a

logger. They will not have the benefit of finding a logger to come in and remove the timber that is on the ground. So when you talk about the magnitude of the problem and the impact that it has, you have to begin with those small landowners, the 10 acres to 100 to 200 acres, many of whom will never see a logger and who will have that debris on the ground.

When you talk about fire dangers, you really have to think along that line also to estimate the magnitude of the problem. So we are dealing with something that I think is far greater than we can even in our own—we can even imagine.

I started looking at it as you were talking respecting control of the danger of fire, and I hesitate to disagree with Mr. Gould, but I think he totally underestimated the magnitude of that problem because of the numbers of places that will never be cleaned up, and you will not be able to get out there and get through them and deal with them.

So when you talk of controlling fires, and I have lived through it with my father back in the days before we had the State Forestry Commission with the tractors and all, and the fear of fire.

And when you talk of the cleanup, and I have already commented on that, it is almost an impossible undertaking. We have people in the audience who are here as small landowners, as I have said already, that will never see a logger or when they see one it will be too late for them to salvage.

At best, as Mr. Lupold has so clearly put it, we are talking about 10 percent of the value of the forest and in this area about 65 percent is privately owned. In South Carolina, I think 75 percent of our forest is owned by the private sector, about 20 percent by the forest products industry and about 5 percent by the Government. That is the State as a whole. Here in this area it is a little different because of Francis Marion National Forest.

When it comes to what do you do, all of us have struggled with that. The tax side is essential if there is going to be any resources available to engage in any kind of reforestation program that you talk about. Even with that, many of the people, many of the small landowners, are not going to be able to participate if they are required to come up with any substantial funds because they will not have had salvage of their lands. So you are dealing with a bunch of small landowners who will not even have the salvage value. With the more reasonable size owners who may salvage ten percent of the value and even that, if they have to pay the capital gains tax on it, as we heard earlier, will further diminish that.

So it is an extraordinary problem. It is really a catastrophic problem that is going take a lot of vision on the part of a lot of people, and some new thinking. I can understand the attitude of the members of the Senate Finance Committee and the Ways and Means Committee in being concerned about tampering with the tax laws. But I think we are dealing with an unusual catastrophic problem that needs a multitude of solutions, both from the tax side and from the reforestation side. Dealing with the cleanup is even greater because if you cannot clean it up, you cannot reforest it. I have engaged in reforestation and I heard Mr. Sullivan talk about the average cost is $100 an acre. In 1986, I planted 150 acres that had been—of 8-year-old trees that had been totally burned and if

there was ever just a normal easy area to reforest, and it was $154 an acre. That was in 1986 under those normal conditions. So we are talking about a reforestation cost with the problem we have got now of $250 to $300 an acre. And when you talk about 25 percent participation from the smaller landowners even, you are talking about almost an impossible problem.

So I would simply like to put it in that perspective and leave it with the thought that my 14-year-old grandson said to his mother the other day, talking about our own place, that "Momma, our farm will not look like it did before Hugo until I am grandaddy's age." That is something else we have to focus on. We are not dealing with a hurricane that destroyed a wheat crop or a drought that destroyed a hay crop or a corn crop. We are dealing with something that destroyed a crop of timber, that to put it back to where there will be any income at all derived from it, we are talking about 20 years. And to put it back where it was, as some of us who did not engage in clearcutting and replanting, it is going to take 40 to 50 years to get it back again before it is returned to a profitable or to any kind of basis.

So Senator, you and Congressman Spratt and others—and I think the mechanism is available through the consulting foresters and through the State department of forestry, to deal with the value when it comes to what the actual catastrophic casualty loss is. You certainly have no problem with the salvage value because that is being monitored very closely.

I want to commend you and want to thank you for being here and for giving me this opportunity to mention one last caveat. When we talk about wetting down, putting in ponds, spraying, we have got to have control, we have got to have cooperation from the Federal and State agencies like EPA and the department of health and environmental control in South Carolina. Here they have simply just said go ahead, get back in operation, do all these things on a temporary basis in order to let the loggers and let the sawmills and let everybody put it on the ground and let them spray it and wet it down. But we have got to be aware of the impact that EPA and the other Federal regulatory bodies as well as the State bodies can have when we talk about long term. I think that is something that needs to be talked about in the context of what you are doing.

I would be happy to submit something later for the benefit of the committee, but I personally wanted to speak primarily not for myself but for those small landowners out there who are not going to see a forester, who are not going to have the resources to participate unless there is some extraordinary relief provided for them also.

Mr. SPRATT. Mr. Chairman, could I make one clarification?

Mr. VOLKMER. Yes.

Mr. SPRATT. Governor McNair, when Bo Shaw spoke about $100 an acre, he was talking about the landowner's share in a 75 percent cost-sharing program.

Mr. MCNAIR. I know. I was talking about Mr. Sullivan's remarks of the normal cost. That would be the normal cost to one of the large timber companies reforesting their own property, and I was saying 2 years ago I reforested some that was a simple process with

1½ times that. Because I think we have to be realistic when you are talking about reforestation cost, and you have to look at it from what it is going to be out there and those woodlands war zone as I call it.

Mr. VOLKMER. Thank you very much, Governor McNair. Are there any questions from the panel for Governor McNair.

[No response.]

Mr. VOLKMER. Thank you very much, your testimony was very helpful.

I would like to now call Mr. Mike Maggard. Could you just summarize, we are really running out of time, Mike. We have read your statement and I liked the information, especially the amount of wildfires you just normally have here. I think that is very important.

STATEMENT OF MICHAEL G. MAGGARD, BERKELEY COUNTY RANGER, SOUTH CAROLINA FORESTRY COMMISSION

Mr. MAGGARD. Well I feel it is too. I would like to say I really appreciate the opportunity to come before the panel.

This morning I have heard an awful lot of requests made and stories told, but I want to assure you gentlemen of one thing, over the last several years it has been my job to provide fire protection and fire control for all these people, everybody in Berkeley County. Fellows, this is not an iffy situation. We are going to have somewhere in the neighborhood of 400 to 450 wildfires in Berkeley County that will occur between now and the first of July. Our past records indicate that, historically we are a high occurrence county and it is coming.

In the past I have been extremely proud of our agency, our organization. We have had the ability to detect these smokes from our towers, take our little tractors and go out, through a couple of lines around them and in a few minutes have them contained, controlled. Very, very rare did we lose a home, not even a barn, occasionally a dog lot or something, and that was just about it.

Those days are over. I can no longer get my tractors in the woods. Unless we are reequipped and refitted with some updated equipment, some larger equipment, some additional manpower and air detection, we are in deep, deep trouble.

Our high priority values in the past we have laced on young plantations. Those little trees just cannot stand fires and as Governor McNair just pointed out, we lost 150 some acres over there of 8-year-old trees, they cannot stand it. A fire goes through there with proper weather conditions and they are ruined, that priority has now changed. I am looking at people's homes and people's lives now.

The interface problem that we are going to experience this year, these little communities back down these rural lanes, they are literally sitting right in this bed of fuel. If we do not get some equipment, some people in here to help us out, we have got some serious problems.

Thank you.

[The prepared statement of Mr. Maggard appears at the conclusion of the hearing.]

Mr. VOLKMER. Thank you. I would like to ask a question because we did drive up through here and so we saw some of it and it struck me that a lot of those trees are down right next to the houses.

Mr. MAGGARD. That is correct, sir.

Mr. VOLKMER. Now is there any way, any type of program that we could come up with at least to have a clearing, a fire break, somewhere between all the devastation and some of those houses and the towns?

Mr. MAGGARD. Yes, sir, there has been some discussion and there is going to be some presuppression breaks that we are talking about now in high occurrence areas. I think the Forest Service, the first panel indicated that there may be a possibility of trying to construct some presuppression lines to break up some of these large blocks and large tracts, but as some of the other folks mentioned on some of the private tracts, these fellow are never even going to see anybody to come in and salvage. That debris is not going to be picked up and we are going to have to come up with some means to be able to go in there and assist those people. Otherwise, reforestation is going to be out of the question. We have to be able to protect what we have left and be able to protect what we are going to plant. That is the request that I really would like to make.

Mr. VOLKMER. So when we look at questions of where we can help with Federal funds, this is one area that we had better look.

Mr. MAGGARD. Yes, sir, the fire protection end of this thing is to me of the utmost importance. If we are not able to protect what we have remaining in Berkeley County—I think it is more important now than ever before to do that.

Mr. VOLKMER. Thank you. I have no further questions. Does anyone on the panel have any questions? Senator Hollings. Mr. Tallon.

[No response.]

Mr. VOLKMER. Thank you very much.

We were scheduled to leave at 11 a.m., it is now 11:20 a.m. We had hoped to be able to have other witnesses from the audience who wished to testify, but I think that is going to be impossible. I would like to tell you for those who did come here with the idea of maybe saying a few words, if you would, if you have not already, put those words down in a statement and send it to us, in your own words. Just send it to the Agriculture Committee, Subcommittee on Forestry, Longworth Building, Washington, D.C. 20515 and we will get it, I guarantee you we will get it.

I would like to ask real fast how many in the audience are small farmers with say acreage of less than 100.

[Show of hands.]

Mr. VOLKMER. So we do have, like Governor McNair said, quite a few of those.

I hope that we can be of assistance to all of you. This hearing has been very enlightening to me. Being here, Robin, has been very enlightening, just what I saw this morning a little bit, and I am sure as soon as we fly up to Charlotte we are going to see quite a bit more.

I just want to let you know that we will be working with your delegation, with Senator Hollings, who has been in the forefront along with Robin and John and others in the delegation, the forefront to try to bring some help down here. Some help has been brought for Hurricane Hugo injuries. I think, Senator, that perhaps this is one area where the national media did not ever really focus.

Senator HOLLINGS. They never did focus.

Mr. VOLKMER. They focused on the homes in Charleston and the islands and stuff around there, Myrtle Beach and that area, talked about that, but I hardly ever saw anything about the devastation, as I said probably the largest devastation of forest and trees ever in the history probably of mankind, as far as I know, and so it is quite a story that has not been told. But we will be working with you on it.

With that we are going to have to adjourn the hearing. Thank you very much.

[Whereupon, at 11:18 a.m., the subcommittee was adjourned, subject to the call of the Chair.]

[Material submitted for inclusion in the record follows:]

STATEMENT OF
ALLAN J. WEST, DEPUTY CHIEF FOR STATE & PRIVATE FORESTRY
FOREST SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

Before the
Subcommittee on Forests, Family Farms and Energy
Committee on Agriculture
United States House of Representatives

Concerning Damages to Federal, State, and Private Forest Resources
and the USDA Forest Service Participation in the Relief Efforts
Following Hurricane Hugo

November 6, 1989

Moncks Corner, South Carolina

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

Thank you for the opportunity to testify for the Department of Agriculture today. I will summarize the Forest Service's participation in relief efforts following Hurricane Hugo and the damage done to Federal, State, and private forest resources and facilities in the affected areas. I have with me today Jack Alcock, Regional Forester for the Southern Region; Tom Ellis, Director of the Southern Forest Experiment Station; and Lamar Beasley, Director of the Southeastern Forest Experiment Station.

Forest Service Participation in the Relief Effort

The first priority of any government agency--regardless of its mission--is to help protect human life and alleviate human suffering to the extent possible. The Forest Service is no exception. We are proud that we have been able to

apply decades of emergency management experience to the problems caused by Hurricane Hugo.

Our ability to organize for an emergency, and to locate and transport resources quickly, has served the public well over the last month. Often, we were able to provide the basic services, equipment or technical expertise that allowed local, State, and other Federal agencies to fulfill their emergency roles. Our capability results from decades of fire and other emergency experience and the evolution of the "Incident Command System." This system provides a management structure for responding to emergencies. As was recently demonstrated in the Virgin Islands, Puerto Rico, and South Carolina, the IC system works very well in responding to all kinds of natural disasters as well as those caused by wildfire.

For example, the government of the Virgin Islands found its telephone ties with the outside world completely severed. The Forest Service provided satellite telephone equipment that restored those ties and made it possible for the government to coordinate relief efforts on the islands. Other radio equipment provided by the Forest Service allowed better tactical communications throughout the Virgin Islands.

On Puerto Rico--where most of the Commonwealth's critical communications sites are in the Caribbean National Forest--the Forest Service's principal mission was to clear the roads so that communications technicians could repair damaged facilities and restore communications to local emergency agencies and to the military facilities on the island. The Forest Service also had a critical

mission to clear the road to the FAA radar site in El Yunque, so that air traffic into the San Juan airport could be handled more efficiently.

In South Carolina, Forest Service offices were the first to re-open after the storm. These offices often provided the focal points for other agencies trying to establish emergency operations, and they also served as distribution points for relief supplies to the public. This was especially true in McClellanville where Forest Service crews cleared city streets, provided potable water, and used pumper trucks to clean residences and businesses. Forest Service crews also helped reopen a doctor's office and the pharmacy to restore basic medical services. The Wambaw Ranger District office at McClellanville provided office space for the Red Cross and Marine Corps. At a time when most of the attention was being focused on the large cities, the Forest Service was fulfilling its responsibility and commitment to aid rural communities.

During the week of September 25, the Forest Service arranged for air lifting 58,000 pounds of infant formula to St. Croix. We provided food, bottled water, and other supplies to the hospital on St. Thomas. This assistance was provided at the request of the Federal Emergency Management Agency (FEMA). A key challenge for us has been to make sure that the States are aware of the kind of aid we can render, so that they can initiate formal requests to FEMA for our assistance. We are still receiving requests through FEMA, and we are glad to help out wherever we can.

Now that the initial emergency has passed, we are beginning to focus more intently on the damage to forest resources and facilities. A picture of catastophic damage is emerging. The brunt of the storm struck the forests of

Puerto Rico and South Carolina, but serious damage to forests occurred all along Hugo's path from the Virgin Islands to Virginia.

Caribbean National Forest, Puerto Rico

In Puerto Rico, the Caribbean National Forest (also designated as the Luquillo Experimental Forest) is the only tropical rain forest within the National Forest System. This forest has been the primary research facility for the Institute of Tropical Forestry during the past 50 years and provides important research information to all tropical areas of the world. Study areas were critically damaged, directly affecting our ability to support the long-term research need in the tropics. It is also the habitat for several endangered plant and animal species, including the Puerto Rican Parrot.

Hurricane Hugo passed directly over the 28,000 acre Caribbean National Forest heavily damaging 22,000 acres. Damage includes breakage and blowdown of many trees and almost complete defoliation of those remaining. There was also heavy damage to Forest Service offices and administrative sites. For example, the roof blew off the El Yunque Ranger Station, all six observation towers used for forest canopy research blew down, and all of our field meteorological equipment was destroyed. Roads into the forest were blocked by fallen trees, debris, and landslides. About 30 miles of streams are plugged by debris in many places, so the 40-odd rural towns that rely upon the streams for drinking water are without supplies. Worse, ponds backing up behind the debris present an increasing risk of flooding.

The captive flock of 53 Puerto Rican parrots at the aviary operated by the Forest Service and Fish & Wildlife Service was unhurt, largely due to the emergency hurricane action plan previously developed for the facility. The aviary itself suffered some minor damage to its sewage disposal and electronic systems. However, early censuses indicate that only 23 of the original 46-bird wild flock may have survived the storm. Numerous predators--broad-winged and red-tailed hawks--have been observed in areas where tree fall, breakage, and defoliation were heavy. Many active nest structures were destroyed, and they need to be replaced. Most of the blinds and lookouts used to monitor breeding, nesting, and fledging success were destroyed. In short, the habitat has suffered severely, the wild flock has been reduced, and our ability to monitor the birds has been greatly reduced. It is essential that quick action be taken to protect the remaining parrots and to recover the losses sustained to our research program. These efforts have now begun.

Francis Marion National Forest, South Carolina

In South Carolina, the people suffered one of the greatest losses of natural resources in recent U.S. history. Widespread destruction of forests occurred across coastal and central South Carolina. The South Carolina Forestry Commission puts the total timber loss at 6.7 billion board feet. The 250,000-acre Francis Marion National Forest, located between Charleston and Myrtle Beach, absorbed the full measure of Hugo's violence. Traditionally known for its majestic pine forests, the Francis Marion National Forest suffered catastrophic damage. Almost three-fourths of its sawtimber stands sustained heavy blowdown. The total volume of damaged timber on the Francis Marion National Forest is between 700 million and 1 billion board feet. Most

of the timber damaged on the National Forest was high-quality sawtimber, with a total value of nearly 100 million dollars. This Forest was a significant source of raw material for eastern South Carolina's timber industry, a major source of local employment. Its loss will have serious long-term economic impacts on the area.

Twenty-five percent of Forest Service revenues go back to the local counties for schools and roads. Timber harvested from the Francis Marion provided Berkely County with $850,000 to $1 million annually, and Charleston County $250,000 to $300,000 annually. After the initial salvage of damaged timber is complete, harvesting of National Forest timber will decline sharply with a corresponding decline in 25-percent payments to local governments.

Salvage of Damaged Timber

Our first major concern on the Francis Marion is the salvage harvest of trees that were uprooted or broken by the hurricane. As I previously mentioned, between 700 million and 1 billion board feet of timber were blown down on the National Forest. This timber is only 10 to 15 percent of the total amount of timber damaged on Federal, State, and private timberlands in South Carolina. We believe that it will be possible to salvage only 25 to 30 percent of the National Forest blowdown -- approximately 250 million board feet. To date we have advertised about 50 million board feet for sale.

Removal of the downed pine timber is a primary concern. Southern yellow pine begins to degrade rapidly after it is damaged. Salvage is important for three reasons:

First, the blowndown timber is already a significant fire hazard that will become extreme next Spring. The danger will continue for several years. Given the intermingled nature of public and private lands, this downed timber poses a severe threat to life and private property.

Second, this increased threat of catastrophic fire risks further damage to the remaining colony sites of the red-cockaded woodpecker, an endangered species. It now appears that the population of red-cockaded woodpeckers was severly reduced by the storm.

Third, the downed trees represent a high potential for insect and disease buildups that could threaten the forest that remains. Many blown down trees have already been attacked by the pine engraver (or Ips) bark beetles. Other insects such as black turpentine beetles, or southern pine beetles could also infest the scarred and weakened trees that survived the hurricane.

We are very aware of concerns about the effects National Forest salvage timber sales could have on the prices received by private timber owners for their salvage timber. There are also concerns about future timber supplies after salvage is completed. We are cooperating closely with the entire forestry community in South Carolina to deal with these problems. Forest Service personnel are active members on the Utilization Committee of the Governor's Forest Disaster Salvage Council. This committee is a cooperative effort to use Federal, State, local, and industry resources in a coordinated manner. We believe that timber salvage is in the public interest, and we will work with

all those involved to see that it proceeds in an orderly and expeditious manner.

We are looking into the feasibility of storing several million board feet of pine logs either underwater or under a sprinkler system to slow decay and extend the usable life of the wood. This timber could then be made available to local industry over the next 2 years. This would reduce the amount of National Forest timber on the market over the next few months when the mills will have has more timber than they can use. Later, when the current supply of timber has been reduced, the stored National Forest timber could be made available.

Damage to Research Studies and Facilities

Our second major concern is the fate of the 6,100-acre Santee Experimental Forest where research has been underway for more than 50 years. Current studies address a variety of problems ranging from finding ways to assure survival of the red-cockaded woodpecker to determining the long-term effects of prescribed burning on forest productivity and composition. The Santee is also the principal field research base for the Forest Service's Center for Forested Wetlands Research in Charleston.

Nine extensive long-term experiments were underway on the Santee. Some had been under continuous management and observation for several decades. For example, the world-famous "fire effects" plots had been monitored for more than 40 years. In a matter of hours, most of these field plots were in shambles, and the field station laboratories and greenhouses were badly damaged.

However, some of the ongoing experiments can be renovated and will continue to provide important information. It also appears that the headquarters facilities, so important for educational and research activities, can be restored at reasonable cost.

Damage to Wildlife Habitat

Our third major concern is the impact of Hugo's damage to wildlife habitat. While some species, such as deer, will find additional habitat as a result of the storm, many species are severely impacted. This is particularly true for the red-cockaded woodpecker, a Federally-listed endangered species.

The woodpecker makes its home in older pine trees, precisely the kind which made up extensive areas of the Francis Marion. Prior to Hurricane Hugo, the Francis Marion National Forest supported one of the largest populations of red-cockaded woodpecker--approximately 500 breeding pairs of birds. About 25 percent of the total population on National Forests in the South was on the Francis Marion, and populations were increasing before the storm.

This large, increasing, woodpecker population has been decimated by Hurricane Hugo. For several square miles, very little timber remains standing except broken trees or immature saplings. From the woodpecker's standpoint, this represents a loss of cavity trees, loss of cavity replacement trees, and loss of foraging habitat.

Precise estimates of loss of birds and habitat will not be available for 2 to 3 months. However, field reconnaissance by experienced biologists has assessed the approximate magnitude of the damage. All colonies suffered some cavity tree loss. Over 50 percent of the colonies lost all cavity trees. The population has been reduced by 25 to 75 percent, depending upon the mortality of birds in damaged colonies. We are taking action to protect as many surviving birds as possible and stabilize the population. Immediate action could mean the difference between losing 70 percent of the population or possibly saving 60 percent of the population.

Recovery efforts for the red-cockaded woodpecker will be a joint task for researchers and National Forest managers. Forest Service researchers are providing technical leadership and are working closely with personnel from the Fish and Wildlife Service, North Carolina State University, and others on recovery efforts.

An emergency response team, led by Mike Lennartz of the Southeastern Station, is installing artificial cavity boxes and excavating new cavities in broken snags and remaining trees. This emergency effort has met with some success. Already, 25 to 30 percent of the cavity inserts are being used as roosting sites by surviving woodpeckers. However, it will take more time to determine if the newly excavated cavities and cavity inserts will also be used for nesting. The process of population stabilization and growth needs to be monitored and modeled--tasks which will take our researchers and their cooperators several years.

Damage to Facilities

The damage on the Francis Marion also includes extensive damage to administrative sites, roads, bridges, and other facilities. The Witherbee and Wambaw Ranger District offices, work centers, and employee housing received major damage. Several employee dwellings received 5-6 feet of water throughout. Blown down trees blocked most of the 670 miles of Forest roads. Only 10 percent of the Francis Marion Seed Orchard remains standing. It produced genetically superior seeds for reforestation efforts on Federal lands in South Carolina, Georgia and North Carolina.

National Forests and Research Sites in North Carolina and Virginia

Other damage occured to the National Forests and research sites throughout the National Forests in North Carolina. The Toecane and Grandfather Districts of the Pisgah National Forest in North Carolina received heavy damage from blowdown and from flooding. Major landslides closed roads and blocked streams in very difficult, steep terrain that already had little-to-no access. Damaged timber and hazard trees closed recreation areas. Damage was most severe in stream and river channels, increasing where the storm reached the upthrust mountain areas expecially in Caldwell, Alexander, and Wilkes Counties.

Similar damage occurred on the Jefferson National Forest in Virginia, especially near the Mt. Rogers National Recreation Area where several streams flooded causing substantial bank erosion. Recreation facilities, especially trails, shelters and bridges along the Appalachian Trail were severely impacted by falling trees and high water.

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State and Private Forest Resources

In all of these areas--from the Caribbean to Virginia--the damage to Federal resources and facilities is only a fraction of the damage to State and private resources. The losses to individuals and communities and damage to the environment are difficult to comprehend. After the roads are cleared, and the initial shock of the disaster begins to fade, we still have a big job ahead of us. It will take years to rebuild the cities and rural communities. And it will take decades to restore our forest resources.

Annually, South Carolina harvests about 2.2 billion board feet of timber. This provides 40,000 jobs and contributes 4.3 billion dollars to the economy each year. Timber is the State's largest cash crop, supplying raw material to the third largest industry in the State. In a 6-hour trip through South Carolina, Hugo damaged or destroyed an estimated 6.7 million board feet of sawtimber--or more than three times the normal annual harvest. With an estimated value of over $ 1 billion in forest products, this is enough wood to provide housing for 660,000 people or a city the size of Philadelphia. Thirty-six percent of the State's total forest acreage felt the force of Hugo's blow.

The potential for forest fires may become unparalleled in the South and pose a widespread threat to homes and wooded communities. Wildfire prevention, detection and suppression is now-- and will be for several years to come-- complicated and extremely difficult.

In Puerto Rico, thousands of cubic yards of wind and wave borne sand were carried into coastal recreation areas, covering roads, picnic areas, clogging

canals and smothering mangrove roots. Trees were thrown down, defoliated or stripped of bark by sand and water-blasting. An estimated 80 to 90 percent of the island's commercially important fish species which spend some part of their life cycle dependent upon mangrove swamp food chains were impacted by the storm. Fish catches are expected to be lower for at least a year. Private forest lands suffered windthrow, blocked roads, landslides, damaged fencing, and public use areas and structures were damaged. The Commonwealth's Department of Natural Resources will need assistance in providing technical support and training for their local workforce, as well as in establishing new forests.

The Commonwealth and State forestry agencies and the forest industry depend on Forest Service for accurate information, research, and technical assistance. The periodic forest inventories conducted by the Southern and Southeastern Forest Experiment Stations are the only source of detailed information and analysis about the forest resource situation. A reinventory of Puerto Rico, and the Virgin Islands, and the 23-storm-damaged counties in South Carolina is urgently needed, and plans are underway to complete this job as quickly as possible. The two Stations are capable, experienced, and eager to make these analyses.

In addition to the inventory information, which will tell us how the resource base has been affected, we need to know what will happen to timber prices, now and in the future, and how they will affect forestry investments. The Forest Service will utilize its professional staffs to help in any way we can. We are committed to help private landowners and State and local governments with both research and technical assistance for as long as it is needed.

This concludes my prepared testimony. We will be pleased to respond to your questions and to provide additional information.

(Attachments follow:)

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

PROPOSED FUNDING NEEDS FROM HURRICANE HUGO

SUMMARY OF ALL COSTS

(thousands of dollars)

Puerto Rico & Virgin Islands.....	23,352
South Carolina.....	175,965
North Carolina.....	43,087
Virginia.....	969
Regional Support.....	283
Grand Total.....	243,656

(Includes all identified needs and sources of funding)

SUMMARY OF ALL COSTS

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PROPOSED FUNDING NEEDS
HURRICANE HUGO

Southern Region — Atlanta, Georgia
Southern Station — New Orleans, Louisiana
Southeastern Station — Asheville, North Carolina

(dollars in thousands) — November 3, 1989

SUMMARY- FY 1990 AND BEYOND. The following chart is a summary by Fiscal Year of the various funds needed by the Southern Region, Southern and Southeastern Stations to respond to the damage caused by Hurricane Hugo.

Appropriation Item and Projects	Total Needs FY 1990 (1)	Total Needs FY 1991 (2)	Total Needs FY1992+ (3)	Grand Total (4)
FOREST RESEARCH:				
Forest Protection Research	725	0	0	725
Resource Analysis Research	2,000	0	0	2,000
Timber Management Research	2,745	0	0	2,745
Forest Environment Research	2,070	0	0	2,070
Forest Products & Harvesting Research	200	0	0	200
TOTAL, FOREST RESEARCH	7,740	0	0	7,740
FOREST RESEARCH CONSTRUCTION	918	0		918
STATE AND PRIVATE FORESTRY:				
Forest Pest Management:				
Federal Lands	100	0	0	100
Fire Protection:	8,751.4	0	0	8,751.4
Forest Management and Utilization:				
Forest resource management:				
Reforestation	41,000	41,000	41,000	123,000
Damage Assessment-Aerial Photography	99.2	0	0	99.2
Technical Assistance	30	0	0	30
Urban Forestry	29,172			29,172
Subtotal, Forest Management & Utilization	70,301.2	41,000	41,000	152,301.2
TOTAL, STATE AND PRIVATE FORESTRY	79,152.6	41,000	41,000	161,152.6

(2)

Appropriation Item and Projects	Total Needs FY 1990 (1)	Total Needs FY 1991 (2)	Total Needs FY1992+ (3)	Grand Total (4)
FOREST SERVICE FIREFIGHTING:				
Fire Presuppression	895.4	800	525	2,220.4
Fuels Management	1,000	250	250	1,500
TOTAL, FOREST SERVICE FIREFIGHTING	1,895.4	1,050	775	3,720.4
NATIONAL FOREST SYSTEM:				
Lands and Resource Protection				
Real Estate Management:				
Land exchange and adjustment	6	0	0	6
Subtotal, Real Estate Management	6	0	0	6
Land Line Location	1,306.2	187	0	1,493.2
Maintenance of Facilities	2,077.2	27	0	2,104.2
Forest Road Maintenance	1,195.6	0	0	1,195.6
Forest Trail Maintenance	489	150	0	639
Total, Land and Resource Protection	5,074	364	0	5,438.4
Renewable Resource Management and Utilization				
Sales Administration and Management:				
Timber resource inventory planning	250	0	0	250
Silviculture prescriptions	250	0	0	250
Sales preparation	6	0	0	6
Harvest administration	19,260	0	0	19,260
Subtotal, Sales Admin. & Management	19,766	0	0	19,766
Reforestation and Stand Improvement:				
Reforestation	660	660	5,280	6,600
Timber stand improvement	50	0	0	50
Nurseries and tree improvement operations	139	0	0	139
Subtotal, Reforestation & Stand Improvement	849	660	5,280	6,789
Recreation Use:				
Recreation management	707.2	77.7	0	784.9
Wilderness management	58	0	0	58
Cultural resources	730	0	0	730
Subtotal, Recreation Use	1,495.2	77.7	0	1,572.9
Wildlife and Fish Habitat Management:				
Habitat improvement	126	181	1,387.2	1,694.2
Inland fish habitat improvement	59	50	45	154
Endangered, threatened & sensitive species habitat improvement	844.5	114.8	105	1,064.3
Subtotal, Wildlife & Fish Habitat	1,029.5	345.8	1,537.2	2,912.5

(3)

Appropriation Item and Projects	Total Needs FY 1990	Total Needs FY 1991	Total Needs FY1992+	Grand Total
Range Management:				
Range structural improvement	12	0	0	12
Subtotal, Range Management	12	0	0	12
Soil, Water and Air Management:				
Soil and water improvements	575	100	0	675
Subtotal, Soil, Water & Air Management	575	100	0	675
Total, Renewable Resource Management and Utilization	23,726.7	1,183.5	6,817.2	31,727.4
Other Costs:				
General Administration	119.9	0	0	119.9
Older Americans & Youth Conservation	10,000			10,000
Fleet Replacement	15	0	0	15
Communications	40	0	0	40
Land Management Planning	525	500	0	1,025
Subtotal, Other Costs	10,699.9	500	0	11,199.9
TOTAL, NATIONAL FOREST SYSTEM	39,500.6	2,047.5	6,817.2	48,365.3
TOTAL, APPROPRIATED FUNDS	129,206.6	44,097.5	48,592.2	221,896.3
PERMANENT APPROPRIATIONS:				
Working funds:				
Timber salvage sales	5,519	0	0	5,519
Operation and maintenance of quarters	9.2	0	0	9.2
TOTAL, PERMANENT APPROPRIATIONS	5,528.2	0	0	5,528.2
TRUST FUND:				
CWFS-KV:				
KV-Reforestation	400	400	3,200	4,000
KV-Wildlife	69	99	613.8	781.8
TOTAL, TRUST FUND	469	499	3,813.8	4,781.8
TOTAL, REGULAR FOREST SERVICE	135,203.8	44,596.5	52,406	232,206.3

(4)

Appropriation Item and Projects	Total Needs FY 1990	Total Needs FY 1991	Total Needs FY1992+	Grand Total
TRANSFER FUNDS:				
Rural Community Fire Protection Grants, FmHA-USDA	4,384.4	0	0	4,384.4
Emergency Watershed Protection, SCS-USDA	2,613	0	0	2,613
Emergency Relief Funds(ERFO), FHWA	4,200.6	252.6	0	4,453.2
TOTAL, TRANSFERS TO FOREST SERVICE	11,198	252.6*	0	11,450.6
GRAND TOTAL, FOREST SERVICE	146,401.8	44,849.1	52,406	243,656.9

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

PROPOSED FUNDING NEEDS FROM HURRICANE HUGO

Summary of All Costs for

REGIONAL OFFICE SUPPORT

(dollars in thousands)

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
STATE AND PRIVATE FORESTRY				
Forest Resource Management:	39.2			39.2
Total S&PF	39.2			39.2

Narrative Summary:

Technical Assistance: $30M has been identified to provide technical assistance, salary and per diem to the effected State Foresters in damage assessment, planning and monitoring of recovery actions funded under Cooperative Forestry grants. $9.2M is for providing geometronics support by Regional Engineering connected with aerial photography for damage assessment purposes.

NATIONAL FOREST SYSTEMS Maintenance of Facilities:	81.8			81.8
Forest Fire Protection:	45.4			45.4
Forest Road Maintenance:	15.6			15.6
Sales Administration & Harvest:	6			6
Recreation Management:	15			15
Wildlife and Fish Habitat Management:	6			6
Soil, Water and Air Management:	5			5
Total National Forest System	174.8	0	0	174.8

Narrative Summary: (Continued)

Maintenance of Facilities: $81.8M has been identified to provide technical structural and environmental Engineering support to the impacted National Forests by the Regional Office. This is especially needed in Puerto Rico where they lack the skills on the Forest.

Forest Fire Protection: Funding needs are for an additional dispatcher ($25M), increased travel for assistance trips, training ($6M) and funding of detailers to develop a new fireplan for the effected areas ($14.4)

Forest Road Maintenance: $15.6M is for Road Engineering in support in helping the National Forests identify roads qualifying for emergency funding and working with FHWA Engineers to obtain funding. Other technical assistance will be provided as needed.

Sales Administration: Funding is to perform technical assistance trips by Regional Sales people to help in the areas of Timber Sale preparation and Contract administration under abnormal situations.

Recreation Administration: $15M is needed to provide technical Engineering support in the repair and reconstruction of Recreation facilities throughout the impacted Forests. Here again, this is especially necessary in Puerto Rico.

Wildlife and Fish Habitat: Funding needed to provide Regional expertise in dealing with impacts on T&E Species, especially the RCW and Puerto Rican Parrot.

Soil, Water and Air Management: $5M has been identified to provide technical assistance to watershed protection projects not eligible for SCS emergency funding.

PERMANENT AND TRUST FUNDS

Timber Salvage Sales:
Operation and Maintenance of Quarters:
KV Reforestation:
KV Wildlife

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
TRANSFER FUNDS Emergency Watershed Protection-SCS	48	0	0	48
Emergency Relief Funds-FHWA	18.6	2.6	0	21.2
Total Transfer Funds	23.4	2.6	0	69.2

Narrative Summary:

Emergency Watershed Protection: The $48M is to provide Regional Specialists to work with SCS Field Represenatives in developing and monitoring emergency watershed protection projects.

Emergency Relief Funds: $21.2M has been identified for the use of Regional Engineers to provide techical assistance and oversight on the use of ERFO funding approved by FHWA. The estimate includes some carry over into FY 1991.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

PROPOSED FUNDING NEEDS FROM HURRICANE HUGO

Summary of All Costs for

PUERTO RICO & VIRGIN ISLANDS

(dollars in thousands)

Appropriation Line Items	FY 1990	FY 1991	FY 1992	Grand Total
FOREST RESEARCH				
Forest Protection Research	0	0	0	0
Resource Analysis Research	750	0	0	750
Timber Management Research	670	0	0	670
Forest Environment Research	780	0	0	780
Forest Products and Harvesting Res	0	0	0	0
TOTAL FOREST RESEARCH	2200	0	0	2200

Narrative Summary

Resource Analysis Research: Perform a multi-purpose forest inventory and damage assessment, and analyses of the economic effects of hurricane damages to local economies to devise strategies enhancing the recovery of local economies.

Timber Management Research: Remeasure study plots (420 plots) to correct damage, and devise, redesign, or redirect studies to salvage the most information possible. Establish new studies to track the ecological response of tropical forests to hurricane damage.

Forest Environment Research: Conduct research on aquatic, terrestrial, and avian threatened and endangered species and how they respond and adapt to post hurricane habitats. Redesign or redirect damaged studies. Establish new studies to track the ecological response (soil, water, and related processes) of tropical forest ecosystems to hurricane damage.

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
RESEARCH CONSTRUCTION				
Rio Piedras	482	0	0	482
Sabana	16	0	0	16
Bisley	86	0	0	86
Estate Thomas (St. Croix)	34	0	0	34
TOTAL RESEARCH CONSTRUCTION	618	0	0	618

Rio Piedras: Major repairs to nursery prep building (electrical and metereological equipment), chemical laboratory, and storage building. Replace six canopy observation towers.

Sabana: Replace roofs on two storage buildings.

Bisley: Replace a tower and assorted meteorological equipment; clean, repair, and recalibrate metered watersheds.

Estate Thomas: Replace damaged warehouse.

Appropriation Line Items and Projects	*FY 1990*	*FY 1991*	*FY 1992*	*Grand Total*
STATE AND PRIVATE FORESTRY				
Forest Pest Management	0	0	0	0
Cooperative Fire Protection	275	0	0	275
Forest Management & Utilization	10,000	0	0	10,000
TOTAL STATE AND PRIVATE FORESTRY	**10,275**	**0**	**0**	**10,275**

Narrative Summary:

Forest Pest Management: No pest projects are identified in Puerto Rico or the Virgin Islands.

Fire Protection: Nearly all fire stations received damage; this provides for repairs to these facilities on the isles of St. Thomas, St. Johns, and Puerto Rico.

Forest Management & Utilization: Funding is for Urban Forestry projects. Damage tree removal and planting of replacements (300,000 trees), 2 temporary nursery facilities, pruning and shoring-up of salvageable trees, clean-up of tree debris.

Appropriation Line Items and Projects	*FY 1990*	*FY 1991*	*FY 1992*	*Grand Total*
NATIONAL FOREST SYSTEM:				
Land Line Location	66	187		253
Maintenance of Facilities	1,738	27	0	1,765
Forest Road Maintenance	30	0	0	30
Forest Trail Maintenance	136	150	0	286
Sales Administration & Harvest:	5	0	0	5
Recreation	80.2	77.7	0	157.9
Wildlife & Fish Habitat	538.5	9.8	0	548.3
Soil, Water & Air Mgt.	0	100	0	100
Reforestation & Stand Improvement:	50	0	0	50
Other Costs	5,040	0	0	5,040
TOTAL NFS	**7,683.7**	**551.5**	**0**	**8,235.2**

Narrative Summary:

Landline Location: Restore 24 miles of obliterated property boundaries.

Maintenance of Facilities: Repairs to recreation sites include debris removal, roof replacements, sign replacements, repair of utilities, and small building repairs or replacement. General repairs are similar for the administrative sites but on a larger scale due to site size and complexity. Major site work is required at the Rio Piedras and Catalina sites.

Forest Road Maintenance: Minor clearing, drainage repair and slide removal from Forest development roads.

Trail Maintenance: Clear debris and restoration/reconstruction for 30 miles of trail on the Caribbean National Forest.

Sales Administration: Sale promotion, preparation and administration for all accessible merchantable down mahogany and other species as appropriate.

Timber Stand Improvement: Density reduction on 1,446 acres of young mahogany plantations.

Recreation: Repair and reconstruction of developed sites.

Wildlife & Fish Habitat: This includes funds to evaluate the effects of the hurricane on the Puerto Rican parrot, replacement nest structures, lookouts, and blinds and infrastructure maintenance critical to parrot recovery at the aviary.

Soil, Water & Air Mgt.: This includes funds for stream channel and slope stabilization.

Other Costs : Repair and/or replace damaged vehicles. Revise Forest Land and Resource Management Plan to reflect impact of Hurricane Hugo on Caribbean National Forest. Includes $3 million for an older American program and $2 million for youth conservation program to support general forest resource and facility restoration.

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Appropriation Line Items *and Projects*	FY 1990	FY 1991	FY 1992	Grand Total
TRANSFER FUNDS:				
Rural Community Fire Protection Grants-FmHA:	104.4	0		104.4
Emergency Watershed Protection-SCS:	640	0	0	640
Emergency Relief Funds-FHWA:	1,030	250	0	1,280
TOTAL TRANSFER FUND	**1774**	**250**	**0**	**2,024**

Narrative Summary:

Rural Community Fire Protection: Rural community fire protection needs identified by the Commonwealth ($25M) and the Virgin Islands ($79.4M) for repair of damaged fire stations. Funding should be requested through USDA-FmHA

Emergency Watershed Protection: SCS has currently given approval for the Exigency program (30 days) of $190M needed to immediately remove debris from bridge pilings and to clean culvert and water supply inlets and channels above water supply intakes. Yet to be approved is $450M of the Nonexigency program (220 days) needed to remove debris in channels and flood plains above culverts, bridges and water supply intakes.

Emergency Relief Funds: Immediate need is for $1,060M to repair extensive damage to Road PR 191, the main access through the Caribbean National Forest, as well as the clearing of smaller Commonwealth and Forest owned roads. FHWA has approved $1,030 of Emergency Funding for the Commonwealth. Yet to be approved is longer term needs of $250M of emergency funding to repave sections of Commonwealth Roads within the Forest which are damaged or deteriorating due to the hurricane.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

PROPOSED FUNDING NEEDS FROM HURRICANE HUGO

Summary of All Costs for

NORTH CAROLINA

(dollars in thousands)

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
STATE AND PRIVATE FORESTRY				
Forest Pest Management	0	0	0	0
Cooperative Fire Protection	2,646	0	0	2,646
Forest Management & Utilization	22,117	8,000	8,000	38,117
Total State and Private	24,763	8,000	8,000	40,763

Fire Protection: Increased fire protection for extensive tree blowdown areas: patrol planes and helicopter contracts during high fire danger periods. Fuels reduction on critical areas.

Forest Management & Utilization: Funding is for reforestation assistance on a total of 2.7 million acres (1.7 million acres < 25% damage, 1 million acres > 25% damage); Urban forestry ($14 million) projects for 103 towns with heavy or moderate damage: dangerous tree removal and replacement, pruning and salvage.

NATIONAL FOREST SYSTEM	FY 1990	FY 1991	FY 1992	Grand Total
Forest Road Maintenance	100	0	0	100
Forest Trail Maintenance	93	0	0	93
Recreation	6	0	0	6
Soil, Water & Air Mgt.	500	0	0	500
Total National Forest System	699	0	0	699

Narrative Summary:

Forest Road Maintenance: Funding required for slide and slump repair and stabilization along Forest Development Roads. Additional emergency work accomplished with $1,500 of ERFO funding.

Forest Trail Maintenance: Clean debris and restore nearly one third of entire trail system.

Recreation: Removal of damaged trees, hazard trees and limbs, Badin Lake.

Soil, Water & Air Management: This includes stabilization of land slides that are impacting roads and stream channel stabilization.

PERMANENT AND TRUST FUNDS	FY 1990	FY 1991	FY 1992	Grand Total
Timber Salvage Sales:	125			125

Narrative Summary:

Timber Salvage Sales: $125M for planning, preparation and administration will immediately used for the sale of an estimated 10 MMBF of salvageable timber down in concentrations totalling approximately 1000 acres.

TRANSFER FUNDS	FY 1990	FY 1991	FY 1992	Grand Total
Emergency Relief Funds-FHWA:	1,500			1,500

Narrative Summary:

Emergency Relief Funds: FHWA has tentatively approved for the Forest Service, pending field reports, $1,500 of ERFO funds for the repair of damaged Forest Service roads and bridges on the Pisgah National Forest which occurred as a result of Hurricane Hugo.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

PROPOSED FUNDING NEEDS FROM HURRICANE HUGO

Summary of All Costs for

SOUTH CAROLINA

(dollars in thousands)

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
FOREST RESEARCH				
Forest Protection Research	725	0	0	725
Resource Analysis Research	1,250	0	0	1,250
Timber Management Research	2,075	0	0	2,075
Forest Environment Research	1,290	0	0	1,290
Forest Products & Harvesting Res.	200	0	0	200
TOTAL FOREST RESEARCH	**5,540**	**0**	**0**	**5,540**

Narrative Summary:

Forest Protection Research: Describe forest fire fuel loads and drying rates in relation to seasonal climatic variables. Track bark beetle populations and successional patterns in dead and down timber.

Compare the response to hurricane damaged ecosystems to research findings from other forest ecosystems, stressed by drought or atmospheric deposition, including the interaction among multiple stresses.

Resource Analysis Research: Perform a multipurpose forest inventory and damage assessment in the 23 counties most heavily damaged to evaluate damage, salvage and regeneration potential on private forestland, in conjunction with forest industries. Analyze storm effects on employment and location of forest industries, the timber supply, price, and economic welfare impacts of Hugo on regional economies, and the effects of holding salvaged public timber off the market to aid private landowners.

Timber Management Research: Rehabilitate and regenerate timber stands on the Santee Experimental Forest, to reestablish four studies of exceptional importance to forest science and practical forest management of coastal plain ecosystems, begin long-term studies of the ecological response of forested wetlands to hurricane disturbance, and develop practical, low cost regeneration recommendations tailored to the site conditions and large areas resulting from the hurricane.

Forest Environment Research: Promote and monitor recovery of the Red-cockaded Woodpecker, by surveying woodpecker census plots, developing an accurate estimate of bird and habitat loss, placing priorities on recovery opportunities, and excavating cavities at nesting sites near suitable foraging habitat. Without these emergency steps, an estimated 75 percent of the population will be lost; with them, losses may be held to perhaps 40 percent. Also gather scientific samples and make observations that characterize the fast-paced and ephemeral, yet highly important, ecological processes and changes resulting from Hugo; and begin long-term studies of the ecological response of forested ecosystems to hurricane disturbance.

Forest Products and Harvesting Research: Assess damage and deterioration rates for timber in the woods and in storage to test various storage methods, monitor wood deterioration, provide guidelines for future disasters.

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
RESEARCH CONSTRUCTION				
Charleston	50	0	0	50
Santee Experimental Forest	250	0	0	250
TOTAL RESEARCH CONSTRUCTION	**300**	**0**	**0**	**300**

Narrative Summary:

Charleston: Repair the headhouse, gate, and fence; remove downed trees; and clean up the grounds.

Santee Experimental Forest: Rebuild the oil house; repair the shop building; reroof the chemical storage building, garage, and office; repair the water system; raze and remove fiberglass greenhouse and headhouse destroyed by falling trees; and remove downed trees and clean up grounds.

STATE AND PRIVATE FORESTRY				
Forest Pest Management	100	0	0	100
Cooperative Fire Protection	5,830.4	0	0	5,830.4
Forest Management & Utilization	38,090	33,000	33,000	104,090
TOTAL S&PF	**44,020.4**	**33,000**	**33,000**	**110,020.4**

Narrative Summary:

Forest Pest Management: Aerial inventory and surveillance for 10 counties; spot treatment for bark beetles hot spots.

Fire Protection: Intensified fire prevention, I&E fire and safety programs, increased aerial detection, additional fire suppression resource availability and preparedness (fuel break construction in extreme hazard areas, e.g. urban interface areas, additional pumpers and tractor units, extra handcrews)

Forest Management & Utilization: Funding is for Urban Forestry projects: Damaged tree removal and replacement in 100 communities in 23 counties. Extensive reforestation over much of the state is required, 110,000 acres per year will be planted.

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
FOREST SERVICE FIREFIGHTING				
Fire Presuppression	850	800	525	2,175
Fuels Management	1,000	250	250	1,500
TOTAL FSF	**1,850**	**1,050**	**775**	**3,675**

Narrative Summary:

Fire Presuppression: Increased prevention. Additional availability of airtankers and portable retardant plant, aerial detection modules, and overall increases in initial attack capability.

Fuels Management: 10,000 acres of direct fuel reductions in high priority areas; extensive fuelbreak construction and maintenance of fuelbreaks.

NATIONAL FOREST SYSTEM	*FY 1990*	*FY 1991*	*FY 1992*	*Grand Total*
Real Estate Management	6	0	0	6
Landline Location	1,215.2	0	0	1,215.2
Maintenance of Facilities	257.4	0	0	257.4
Forest Road Maintenance	1,000	0	0	1,000
Forest Trail Maintenance	85	0	0	85
Sales Administration & Harvest	19,755	0	0	19,755
Reforestation & Stand Improvement	799	660	5,280	6,739
Recreation Use	1269	0	0	1269
Fish and Wildlife Habitat	461	336	1,537.2	2,334.2
Other Costs	5,644.9	500	0	6,144.9
TOTAL NATIONAL FOREST SYS.	**30,492.5**	**1,496**	**6,817.2**	**38,805.7**

***Narrative Summary*:**

Real Estate Management: Evaluate incomplete land exchange cases.

Landline Location: Re-establish 450 miles of obliterated property boundaries.

Maintenance of Facilities: The recreation sites require general debris removal, sign replacement, repair and/or replacement of tables, grills, shelters, wheel guards, chemical toilets, and overhead electrical lines, poles, and transformers.

Recreation Sites: Buck Hall Campground, Huger Campground, Canal Day Use Area, Tarpit Day Use Area, Guilliard Lake Campground, Boggy Head Rifle Range, Honey Hill Hunt Camp, Elmwood Campground, McConnell's Landing, Twin Roads Rifle Range, Half-way Creek Campground, Wambaw Trail Head.

The administrative sites require general debris removal, roof and gutter repair/replacement, fence replacement, and structural repairs.

Administrative Sites: Wambaw, Witherbee, Francis Marion Seed Orchard

Trail Maintenance: Clear debris, re-sign on 109.5 miles of trails.

Road Maintenance: Funding required for road maintenance and restoration for hauling salvage sale timber volume. Additional restoration and clearing work accomplished with $1,500 of ERFO funding.

Sales Administration & Harvest: Costs include $135M to modify existing Francis Marion National Forest sales, revise and update the Timber Inventory data, to revise silviculture prescriptions. An estimated $19,120 million to store approximately 80 million board feet of high quality logs and chips for about two years.

Reforestation: An estimated 77,000 acres of pine types and 6,000 acres of hardwood types are damaged to the extent that some form of regeneration treatment is needed over the next 10 years at an average annual cost of $1,060,000 to accomplish 8300 acres per year. Appropriated funding will finance 60% or $660 annually, remainder will be funded from K.V.

Nursery and Tree Improvement: An additional $139M for work at the Francis Marion Seed Orchard including orchard cleanup, inventory, straightening trees and pest management.

Recreation Use: Remark 53 miles of wilderness boundaries, re-establish 6 miles of Guilliard Lake Scenic Area boundaries, relocate cultural resource sites and survey 40,000 acres in support of recovery operations.

Fish & Wildlife: This includes funds to evaluate and monitor the effects of the hurricane on wildlife and fish resources. Emphasis will be given to maintaining Red-cockaded woodpecker populations. Inland fish habitat mitigation will include erosion control and stream habitat retention. Wildlife habitat mitigation will give special returning habitat for cavity nesters restoring foraging habitats.

Other Costs: Other costs of $119.9 are identified to coordinate, plan and prepare the various reports and other administrative and public affairs needs associated with the Hugo recovery effort. Include is $1 million over two years to completely redo the Francis Marion Land Management Plan. Repair/replace damaged communications equipment, purchase additional equipment for increased workload associated with fire, salvage and other recovery programs, and repair of the Wambaw radio tower.

$3 million is included for Older American Program and $2 million for Youth Conservation Program to support general forest resource and facility restoration.

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
TRANSFER FUNDS				
Rural Comm. Fire Protection Grants-FmHA:	4,280	0	0	4,280
Emergency Watershed Protection-SCS:	1,925	0	0	1,925
Emergency Relief Funds-FHWA:	1,500	0	0	1,500
TOTAL TRANSFER FUNDS	**7,705**	**0**	**0**	**7,705**

Narrative Summary:

Rural Community Fire Protection: Rural community fire protection needs identified by the State of South Carolina State Forester under this program are $4,280M. Funding should be requested through USDA-FmHA

Emergency Watershed Protection: SCS has currently given approval for the Exigency program (30 days) of $325 for the Francis Marion National Forest and $1,600M for the State of South Carolina for a variety of activities to abate any watershed impairment which is creating an immediate threat to State and National Forest property.

Emergency Relief Funds: FHWA has tentatively approved for the Forest Service, pending field reports, $1,500 of ERFO funds for the repair of damaged Forest Service roads and bridges on the Francis Marion National Forest which occurred as a result of Hurricane Hugo.

PERMANENT AND TRUST FUNDS				
Timber Salvage Sales	5,128	0	0	5,128
Operation and Maintenance of Quarters	9.2	0	0	9.2
KV Reforestation	400	400	3,200	4,000
KV Wildlife	69	99	613.8	781.8
TOTAL P&TF	**5,246.2**	**499**	**3,813.8**	**9,919.0**

Narrative Summary:

Timber Salvage Sales: Approximately 70% of the sawtimber on the Forest is down or damaged. Funds will be used to prepare and harvest 120MMBF.

Operation and Maintenance of Quarters: Funds from employee rental of Government owned dwellings applied to clean-up and maintenance of dwellings impacted by the hurricane.

KV Reforestation: Approximately 40% of the costs associated with the pine regeneration discussed above is eligible for KV funding over the next 10 years.

KV Wildlife: Approximately 30% of the wildlife habitat needs discussed above will qualify for KV funding. The Red Cockaded Woodpecker and other T&E Species are 100% appropriated.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

PROPOSED FUNDING NEEDS FROM HURRICANE HUGO

Summary of All Costs for

VIRGINIA

(dollars in thousands)

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
STATE AND PRIVATE FORESTRY				
Forest Pest Management	0	0	0	0
Cooperative Fire Protection	0	0	0	0
Forest Management & Utilization	55	0	0	55
Total S&PF	**55**	**0**	**0**	**55**

Narrative Summary:

Forest Management & Utilization: Funding is for Urban Forestry projects; damaged tree removal and replacement.

VIRGINIA (Continued)

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
NATIONAL FOREST SYSTEM				
Landline Location	25	0	0	25
Forest Road Maintenance	50	0	0	50
Forest Trail Maintenance	175	0	0	175
Sales Administration & Harvest	0	0	0	0
Reforestation & Stand Improvement	0	0	0	0
Recreation Use	125	0	0	125
Wildlife & Fish Habitat	24	0	0	24
Range Management	12	0	0	12
Watershed Management	70	0	0	70
Other Costs	15	0	0	15
Total National Forest System	**496**	**0**	**0**	**496**

Narrative Summary:

Landline Location: Restore 10 miles of obliterated property boundaries.

Forest Road Maintenance: Funding is required for general blowdown cleanup, drainage restoration, and roadbed grading.

Forest Trail Maintenance: Clearing of debris and restoration of trail tread.

Recreation Use: Clearing of debris from developed sites and repair to recreation facilities.

Wildlife & Fish Habitat: This includes funds to replace stream habitat structures lost as a result of the hurricane.

Range: Repair damage to allotment fencing next to streams.

Soil, Water, & Air Mgt: This includes funds to stabilize stream channels and remove debris jams that resulted from flooding. Fox Creek in the Mount Rogers NRA received the most flood damage.

Other Costs: The Jefferson National Forest sustained damages of approximately $15M to their communications system including replacement parts for the microwave system and damages to radio antennas and repeaters.

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
PERMANENT AND TRUST FUNDS				
Timber Salvage Sales	266	0	0	266
Operation & Mtce. of Quarters	0	0	0	0
KV Reforestation	0	0	0	0
KV Wildlife	0	0	0	0
Total Permanent and Trust Funds	**266**	**0**	**0**	**266**

Narrative Summary:

Timber Salvage Sales: $266M for planning, preparation, and administration will immediately be used for the sale of an estimated 12 MMBF of salvageable timber.

Appropriation Line Items and Projects	FY 1990	FY 1991	FY 1992	Grand Total
TRANSFER FUNDS				
Rural Commun. Fire Prot. Grants-FmHA:	0	0	0	0
Emergency Watershed Protection-SCS:	0	0	0	0
Emergency Relief Funds-FHWA:	152	0	0	152
Total Transfer Funds	**152**	**0**	**0**	**152**

Narrative Summary:

Emergency Relief Funds: FHWA has tentatively approved for the Forest Service, pending field reports, $152M of ERFO funds for the repair of damaged Forest Service roads and bridges on the Jefferson National Forest which occurred as a result of Hurricane Hugo. The Mt. Rogers NRA received the most damage.

STATEMENT OF JACK GOULD
ACTING STATE FORESTER
SOUTH CAROLINA FORESTRY COMMISSION
BEFORE THE
HOUSE SUBCOMMITTEE ON FORESTS, FAMILY FARMS & ENERGY
MONCKS CORNER, S.C. -- NOVEMBER 6, 1989

MY NAME IS JACK GOULD, AND I REPRESENT THE SOUTH CAROLINA FORESTRY COMMISSION AS ITS ACTING STATE FORESTER.

AS INDICATED THROUGH STATE STATUTE, OUR AGENCY IS CHARGED WITH THE PROTECTION AND DEVELOPMENT OF THE FOREST RESOURCE OF SOUTH CAROLINA. HUGO, UNFORTUNATELY, CREATED IN ITS 6-HOUR PASSAGE THROUGH SOUTH CAROLINA, A SITUATION THAT MAKES IT VERY DIFFICULT TO FOLLOW THE NORMAL PHASES OF PROTECTION AND DEVELOPMENT.

AT THE RISK OF BEING REPETITIOUS, LET'S AGAIN LOOK AT THE DAMAGE THAT HURRICANE HUGO PLACED ON OUR WOODLANDS:

- THE SCOPE OF THE DAMAGE: 4.4 MILLION ACRES
- SAWTIMBER DAMAGED: 6.7 BILLION BOARD FEET
- PULPWOOD DAMAGED: 20 MILLION CORDS
- TOTAL DAMAGE VALUE - INCLUDING SAWTIMBER PULPWOOD, DEGRADE TO EACH, AND DAMAGE TO PRE-COMMERCIAL STANDS: $1.04 BILLION DOLLARS.

THIS DAMAGE IS EQUIVALENT TO 3 YEARS OF THE NORMAL ANNUAL TIMBER REMOVALS OVER THE ENTIRE STATE OF SOUTH CAROLINA!

IN HUGO'S WAKE, THE FORESTRY COMMISSION, IN COOPERATION WITH THE ENTIRE FORESTRY COMMUNITY, IS ACTIVELY ADDRESSING THE MAJOR CHALLENGES OF SALVAGE, PROTECTION (FROM WILDFIRE, INSECTS AND DISEASES) AND REFORESTATION.

MUCH CAN BE DONE WITH OUR AGENCY'S EXISTING RESOURCES, HOWEVER, THE MAGNITUDE OF THESE PROBLEM AREAS WILL DEMAND ACTIONS FAR BEYOND OUR NORMAL CAPABILITIES.

WILDFIRE - WITH SPECIFIC REFERENCE TO THE THREAT OF WILDFIRE, THE AREAS SEVERELY DAMAGED BY HUGO ARE ALSO THE AREAS THAT NORMALLY EXPERIENCE THE HIGHEST RATES OF FOREST FIRE OCCURRENCE AND DAMAGE.

UNBELIEVABLE AMOUNTS OF FUELS HAVE BEEN ADDED TO NORMAL CURING FOREST FUELS, THUS CREATING THE POTENTIAL OF A SECOND DISASTER -- THAT OF UNCONTROLLABLE WILDFIRE WHICH NOW THREATENS LIVES AND HOMES AS WELL AS THE FOREST ITSELF.

TRADITIONAL CONTROL METHODS OF FIGHTING FOREST FIRES WILL BE IMPRACTICAL IN THESE HEAVILY DAMAGED AREAS WHERE THE "JACKSTRAWED" ARRANGEMENT OF SNAPPED AND BLOWN-DOWN TREES MAKES MOVEMENT OF MOST FOREST FIRE SUPPRESSION EQUIPMENT IMPOSSIBLE.

THE FORESTRY COMMISSION HAS INITIATED A $5.8 MILLION DOLLAR REQUEST THAT WILL PROVIDE EMERGENCY FOREST FIRE PROTECTION AND CONTROL MEASURES, AND WE FEEL THAT THERE IS A PLACE FOR THE FEDERAL GOVERNMENT TO ASSIST IN FUNDING THIS PROPOSAL EITHER THROUGH FEMA PROGRAMS OF PUBLIC HEALTH AND SAFETY, AND HAZARD MITIGATION, OR THROUGH THE USE OF DISCRETIONARY FUNDS THROUGH THE U.S. FOREST SERVICE OR PRESIDENT BUSH'S DISASTER RELIEF BILL.

TO MEET THE THREAT OF WILDFIRE THAT IS INCREASING DAILY AS FOREST FUELS CURE AND BECOME EVER MORE FLAMMABLE, WE NEED TO ACT NOW. WE ENCOURAGE YOUR ATTENTION TO THIS URGENT MATTER THAT WE FEEL IS ONE OF THE GREATEST WILDFIRE THREATS EVER ENCOUNTERED IN THE SOUTHEAST.

FOREST SURVEY - ALSO NEEDED AND DEPENDENT DIRECTLY UPON FEDERAL FUNDING, IS THE RE-SURVEY OF THE STORM DAMAGED AREA BY THE U.S. FOREST SERVICE'S FOREST INVENTORY AND ANALYSIS GROUP OF THE SOUTHEASTERN FOREST EXPERIMENT STATION IN ASHEVILLE (N.C.).

THIS SURVEY, UTILIZING PERMANENT FORESTRY PLOTS ESTABLISHED MANY YEARS AGO, IS NECESSARY TO PROVIDE A TRUE SCIENTIFIC ASSESSMENT OF THE DAMAGE, AND THE CONDITION OF THE REMAINING FOREST RESOURCE.

PRIVATE LANDOWNERS AND FOREST INDUSTRY NEED THIS INFORMATION AS RAPIDLY AS POSSIBLE SO AS TO PLAN FOR THE FUTURE.

THE COORDINATION AND PLANNING FOR THIS SURVEY IS BASICALLY COMPLETE, BUT FUNDING IN THE AMOUNT OF $750,000 MUST BE APPROVED SO THAT THIS SURVEY CAN BEGIN. THE U.S. FOREST SERVICE HAS DIRECTED A REQUEST FOR $22 MILLION DOLLARS ASKING FOR FUNDING FROM THE PRESIDENT'S DISCRETIONARY ACCOUNT THAT INCLUDES THE FOREST SURVEY, HOWEVER, THIS ACTION COULD BE MANY WEEKS AWAY. YOUR SUPPORT UTILIZING ALTERNATE ACTION OR THE ACCELERATION OF THE U.S. FOREST SERVICE'S REQUEST ARE URGENTLY NEEDED ON THIS IMPORTANT PART OF OUR HUGO RECOVERY ACTIONS.

REFORESTATION - REFORESTATION MEASURES ON OVER 1.1 MILLION ACRES OF THE DESTROYED AND HEAVILY DAMAGED STANDS OF TIMBER WILL ALSO BE NECESSARY, AND TIMBER STAND IMPROVEMENT PRACTICES PERFORMED ON ANOTHER MILLION ACRES OF PINE AND HARDWOOD TO FACILITATE NATURAL REGENERATION.

WE SUPPORT THE CURRENTLY PROPOSED LEGISLATION ON REFORESTATION ACTION THAT WILL (OR HAS BEEN) BE PRESENTED TO YOU TODAY, AND RESPECTFULLY ENCOURAGE YOUR SUPPORT OF THESE MEASURES ALSO.

WE ARE NOW SETTING THE STAGE TO DEAL WITH THE RESULTS OF A STORM THAT HAS PRODUCED THE SINGLE GREATEST FOREST DISASTER IN THE HISTORY OF THE UNITED STATES.

THE COMBINED "FORESTRY COMMUNITY" OF SOUTH CAROLINA IS DEDICATED TO MEETING THE CHALLENGES CREATED BY HUGO, AND WE ENCOURAGE YOU TO ASSIST SOUTH CAROLINA IN EVERY POSSIBLE WAY. THANK YOU.

(Attachments follow:)

South Carolina Forestry Commission

STATE FORESTER P.O. BOX 1628 COLUMBIA, S.C. 29202 (803) 737-8800

U. S. House Agriculture Sub-Committee
Forests, Family Farms, and Energy
Hurricane Hugo Public Hearing
Moncks Corner, SC
November 6, 1989

The forest damage caused by Hurricane Hugo is difficult to comprehend:

- 4.4 million acres
- $1.04 billion timber
- 6.7 billion board feet of timber

Fire Protection:

In Hugo's wake, problems are magnified. Homes and lives have never been so threatened by the danger of wildfire. What is normally a fire problem has turned into a nightmare. According to forest fire experts, many tons/acre of curing forests fuels are available to ignite and cause disastrous fires. Not only will the fires catch easily and spread rapidly, but traditional fire fighting methods are negated by the "jackstraw" condition of broken trees. In many areas, movement is impossible.

The Forestry Commission has initiated a $5.8 million request to provide emergency forest fire protection services under the Federal Emergency Management Administration's Hazard Mitigation program and their program under Public Health and Public Safety.

Legislation:

Senator Strom Thurmond's proposed, "Hugo Forestry Restoration Act" and Senator Hollings "Hurricane Hugo Tax Assistance Act" are both designed to alleviate the financial hardships suffered by South Carolina's 100,000 plus forest landowners. In addition, proposed legislation sponsored by Mitchell/Dole is proposed to amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act (FEMA).

Many landowners who have invested their lifetime in their woodlands have experienced a total loss over night. To some, this was money for retirement, or college, or emergency medical expenses. Under present tax laws, they may have suffered complete loss but have no financial recourse.

Reforestation:

Including the current ongoing salvage program, one of our primary concerns is to assist landowners with the anticipated massive effort of reforestation. Over 1.3 million acres of pine and pine-hardwood will be requiring reforestation efforts. More than 1 million acres of hardwood will also need some type of preparatory treatment to guide natural regeneration.

We are committed to protecting the land and initiating new crops of trees for the state's third largest industry. But before reforestation can be done, many acres of broken, non-salvageable timber must be dealt with through site-preparation and other pre-reforestation measures.

Forest Survey:

We are currently planning in a cooperative effort with the U. S. Forest Service to re-survey the 23 storm damaged counties. This survey utilizing permanent plot remeasurements will assess the storm's impact on the resource and the industry.

The re-survey cost is estimated to be $750,000 and is currently on request in Washington through the Presidential Discretionary Account of recently approved Disaster legislation.

Urban Forestry:

Trees are one of the most significant attributes of any southern community. Hugo's destruction ravaged our urban trees, and dwellings. However, citizen action groups have begun efforts to make this Arbor Day (Dec. 1) one of the largest urban tree planting efforts. Here in Berkeley County, plans are underway to have school groups plant over 50,000 seedlings.

The Forestry Commission working through the U. S. Forest Service S&PF has requested emergency funds to plant, repair, and rehabilitate trees damaged by Hugo.

The people of South Carolina have a story to tell. We have suffered the greatest natural forest disaster in the history of our country. There have been lives lost and immeasurable suffering, but the people have responded, and are working to right their lives. We owe it to them to provide the protection and support as we are able.

Specific information relating to the above items is attached, and follow-up information may be obtained by contacting the State Forester's Office, South Carolina Forestry Commission, 5500 Broad Rive Road, Columbia, SC 29210.

Robert J Gould
Acting State Forester

Hurricane Hugo
Fact Sheet

S. C. Forestry Commission
September 26, 1989

Total timber value damaged: $1.04 billion dollars.

1. A Forest Disaster was declared on Saturday, September 23, 1989 by Acting State Forester, Jack Gould.

2. Sawtimber volume damaged by Hugo totals 6.7 billion board feet. The total annual sawtimber volume harvested in South Carolina is approximately 2.2 billion board feet. The above damage estimate represents 3 years worth of timber harvesting in South Carolina.

3. Approximately 36% of South Carolina's total 12.2 million acres of forested land was damaged by hurricane Hugo.

4. Approximately 660,000 homes could be built with the volume of sawtimber damaged. This would be enough timber to house nearly the entire population of West Virginia or the city of Philadelphia.

5. A total of 23 counties in South Carolina have significant timber damage from the storm; 7 of those counties are classified as extensively damaged.

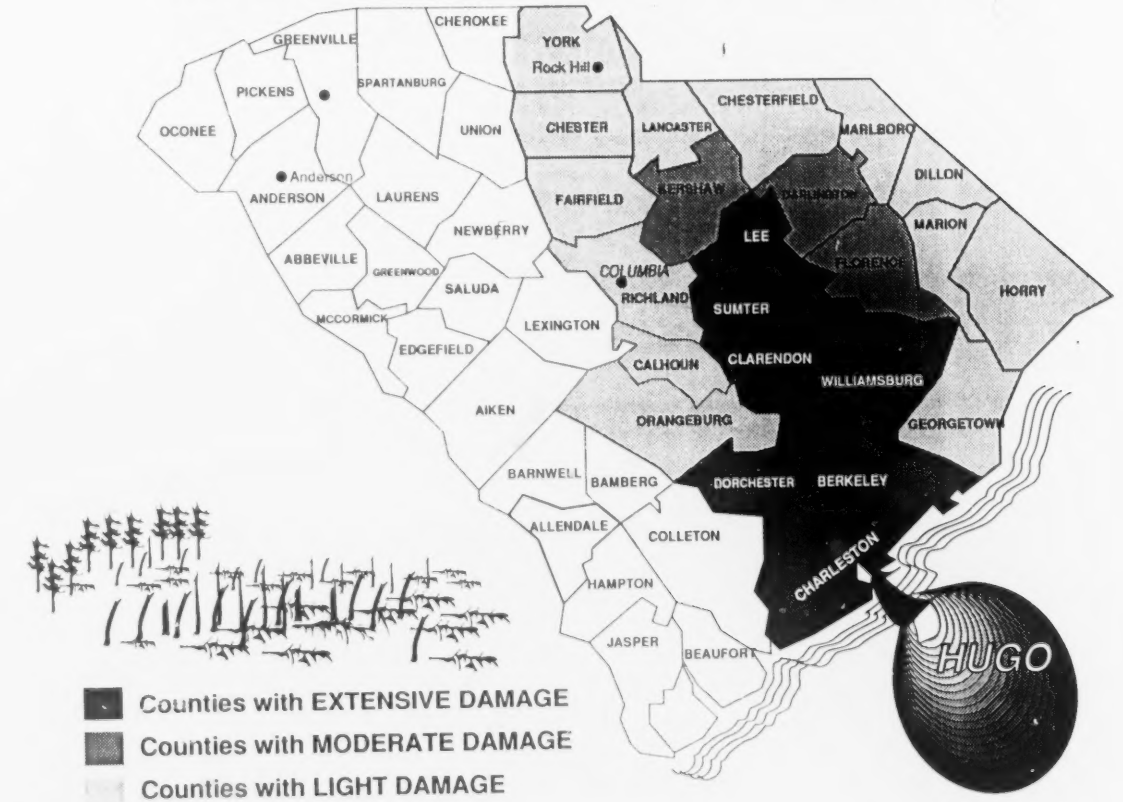
6. Insects (Ips beetles) and disease (blue stain fungi) are likely to affect the damaged timber within 3 weeks.

7. An Emergency Meeting of the Forester's Council of South Carolina is scheduled for Thursday, September 28, 1989. The Forester's Council consists of membership representing all entities of the forestry community: Forestry Commission, Clemson University Extension Service, U.S. Forest Service, Soil Conservation Service, Forest Industry, Consulting Foresters, S.C. Forestry Association, and the Society of American Foresters.

8. Forestry is the third largest manufacturing industry in South Carolina, contributing 4.3 billion dollars annually to the State's economy and providing employment for over 30,000 people.

9. Forestry Commission personnel are continuing to work in all of the storm damaged areas. A total of 242 employees and 124 tractors are involved in the storm recovery assistance. This represents nearly 41% of the agency's employees.

HUGO'S DAMAGE TO SOUTH CAROLINA'S FORESTS



South Carolina FORESTRY Commission

SOUTH CAROLINA FORESTRY COMMISSION

Request for Additional Wildfire
Prevention, Detection, Suppression Needs
In "The Hugo Zone"

$5,830,400

By wind, tides and rain, Hurricane Hugo's massive destruction of timberland and homes could be the forerunner of a second disaster, wildfire!

The S.C. Forestry Commission's task of wildfire prevention, detection and suppression within the "Hugo Zone" is now and will for several years to come be complicated and extremely difficult. Our success in this effort is more crucial than ever. Wildfire in the "Hugo Zone" now threatens much more than timber and wildlife. The second disaster, if it happens, may well take homes and lives. The wildland urban interface (housing developments close to or within the woodland environment) has grown within areas adjacent to Charleston, Summerville, Manning, Sumter, Camden, Lancaster, Rock Hill and other locations for a number of years. In the face of tremendous volumes of downed timber and debris, these residential settings are literally in the midst of a dangerous fuel bed.

The Forestry Commission's fire fighting equipment is designed to combat wildfire in woodlands unlike those that have been drastically altered by Hurricane Hugo. Concerns now arise over the dangerous situations that now exist not only in the woodland areas but also in and around the rural and suburban communities. These same communities are trying to "clean up" which will no doubt give rise to much debris burning. This type burning, regardless of size, will in turn vastly increase the risk of wildfire occurrence.

South Carolina is at this moment entering the fall wildfire season and the normally more intense winter and spring fire season is just a few months away. Time is of the essence!

The following requests for additional funds are our best estimates of immediate needs for fire protection in the Hugo stricken areas of the State. The additional funds will cover most of the short term needs and some of the long term needs for fire protection; however, additional and/or re-occurring funds will be needed for several more years in most of the storm damaged areas.

At least five to ten percent of the total funds requested will be used to intensify the fire prevention, information and education programs related to fire and safety.

10-16-89

SOUTH CAROLINA FORESTRY COMMISSION
Fire Prevention Needs -- Hugo Areas
South Carolina

FIRE PROTECTION NEEDS	EST. COST
Increase use of the Commission's present fleet of light observation aircraft to locate fires and to evaluate severity and potential of those fires. These planes will also be used to direct ground forces in suppression operations increasing both safety and efficiency.	55,000
Bring one (1) federal excess super-cub aircraft up to operational standards to increase air detection and suppression assistance.	10,000
Lease two (2) light aircraft to supplement operations.	56,000
Lease two (2) fixed wing air tankers capable of "scooping" water from lakes and producing fire retardant foam while in flight. (Will also provide initial attack capability) (75 days - 75 Hrs./plane)	675,000
Lease twelve (12) heavy bulldozers and transports. Heavy bulldozers would provide faster fire break construction than is presently possible with our light bulldozers when encountering extremely heavy fuels. The need for this size equipment will exist for several years. (Cost $15,000 per month per unit)	720,000 (4 months)
Refurbish and modify four (4) existing ground tankers to bring them up to operational status.	15,000
Purchase additional foam and long term fire retardant for use in helicopter and fixed wing tankers.	50,000
Lease one (1) 30 ton capacity "Lo-Boy" trailer to transport a heavy tractor presently located and assigned to Manchester State Forest-could be used as needed if transportation were available (trailer used now not highway worthy).	3,000 (6 months)

Retrofit seventeen (17) existing fire suppression tractors with blades to achieve operational status in the Hugo Zone. In their present status without blades these units are ineffective in the heavy fuels and downed logs left in the wake of Hugo.	161,000
Purchase two (2) helicopter water carrying buckets, three (3) helicopter foam systems, one (1) fuel truck and two (2) aerial ignition machines to fully utilize federal excess helicopters presently available to provide an initial attack capability and protection for homes at risk.	108,000
Purchase ten (10) 3/4 ton 4x4 pickup trucks with slip-on pumpers to provide more available water for initial attack; would also be a very valuable indirect attack tool. These pumper /trucks would replace existing worn & inadequate pumpers in most of the Hugo affected counties.	210,000
Develop a major information & education effort to make citizens aware of the vastly increased danger to the forest, their homes and possibly their lives as a result of fuel hazards created by Hugo.	250,000
Modify thirty (30) existing tractor canopies to improve operator protection while operating in downed timber.	7,400
Purchase thirty (30) chainsaws, related safety equipment, and hand tools for fire crews.	38,000
Hire and logistically support ninety-eight (98) people for nine (9) weeks to perform pre-suppression work (fuel breaks) in extreme high hazard areas ie: nursing homes, urban interface communities, and rural communities determined to be at high risk.	200,000

Purchase four (4) programmable radio pack sets for use in observation aircraft.	8,000
Additional Operational, Maintenance and repair supplies for existing mechanized equipment.	1,000,000
Employ one hundred (100) people for six (6) months to accompany forest fire wardens on fire suppression work. (At present Forestry Commission Wardens fight seventy to eighty percent of their fires alone) Fighting fire in Hugo's downed timber makes this risk unacceptable. Mop-up, the final stage of fire suppression, will be much more difficult and take longer due to the larger fuels on the forest floor.	480,000
Fabricate thirty (30) pressurized fire suppression water systems on transport trucks. (Needed for additional initial attack capability)	18,000
Additional travel for foresters and county rangers. (Expected costs due to increased fire suppression needs)	100,000
Purchase one (1) truck/tractor to pull Lo-Boy trailer or tanker/pumper. (5000 gallon capacity)	50,000
Renovate buildings at Florence & Kingstree District Headquarters to house fire crews that will be dispatched temporarily into the Hugo Zone from other sections of the state.	16,000
Purchase two (2) fuel trucks to service heavy suppression bulldozers on the fire line and during pre-suppression operations.	64,000
Purchase twelve (12) D-4 sized bulldozers and transport trucks to replace existing worn out equipment within the Hugo Zone.	1,103,000

Purchase four (4) Loran-C navigational/locator units for aircraft. (Will enhance spotter aircraft's ability to more precisely locate and communicate a given fire's location to ground crews and others)	8,000
Lease one (1) C-130/MAFFS (Mobile Air Fire Fighting System) owned by US Air Force and stationed at Charlotte, N.C. (Would provide very large fire retardant drops on intense fires)	175,000
Purchase TV and Radio time to supplement free Public Service time to intensify the fire prevention efforts within or near the Hugo Zone ie: the necesity for being careful with fire, possible burning bans and other fire prevention messages as needed.	250,000
TOTAL	5,830,400

10-16-89

NEED FOR RE-FOREST SURVEY IN HURRICANE HUGO AREA

The latest U.S. Forest Service Survey was completed in 1986. The data from this survey is very valuable from a planning standpoint for reforestation needs, provides resource data for present and potential forest industries, and other data necessary for multiple resource planning.

Hurricane Hugo's impact to the forest resource is so extensive that the 1986 data for the Hugo area will not be useful. A re-survey is necessary to give us a true assessment of the damage and the condition of the remaining resource. This data will be necessary for planning for reforestation and providing existing and potential forest products firms with the resource data they will need to plan for continued operations.

The U.S. Forest Service advises that the re-survey can be completed in four to five months at a cost of $750,000.

JDM/bl

REFORESTATION NEEDS FOLLOWING HURRICANE HUGO

From a forest management standpoint the most pressing concern following hurricane Hugo is to salvage as much of the broken and downed timber as possible. This is in progress at present under coordination of the Governor's Forest Disaster Salvage Council.

Following the salvage effort, reforestation of the destroyed and heavily damaged stands of timber will be necessary. Preliminary estimates indicate 1.3 million acres of the pine and pine hardwood timber types will need reforestation. Almost two thirds of these acres are on nonindustrial private landowners. Another million or more acres of pine and hardwood will need some form of timber stand improvement practices to facilitate natural regeneration.

There will be great need for a public awareness campaign followed by technical forestry assistance to landowners who have sustained losses to determine the extent of reforestation or other forest management practices needed. Forestry assistance will be provided by the S.C. Forestry Commission, Clemson Extension, Consulting Foresters and Industry Foresters with landowner assistance programs.

With the losses that timber landowners have taken, cost share reforestation programs from federal or state government will be necessary. Reforestation costs will be more than normal due to the excessive debris left following salvage. Cost per acre can run as high as $300.

Senator Thurmond, with Senator Hollings as cosponsor, has introduced the "Hugo Forestry Restoration Act". This Act provides financial assistance to owners of private timber stands damaged by Hurricane Hugo. If this legislation passes in its present form it will cost share on reforestation efforts at a 75 percent rate for landowners with less than 1,000 acres, and at a 50 percent rate for those with greater than 1,000 acres.

Representative Spratt and Senator Hollings have introduced simultaneously in both houses, "The Hurricane Hugo Tax Assistance Act". This bill allows timber owners to deduct their hurricane damage losses on a fair market value, and will permit growers to amortize reforestation expenses up to $30,000 instead of the present $10,000 ceiling.

The magnitude of the reforestation job will require that the work be spread over five or six years. Some timber will be salvaged in two stages with remnant stands being harvested two to three years following initial salvage. If the response is as expected, additional foresters may be needed to provide this technical assistance.

SOUTH CAROLINA FORESTRY COMMISSION

ESTIMATED TIMBER VOLUME DAMAGED BY HURRICANE HUGO
AS OF SEPTEMBER 26, 1989

COUNTY	PINE PULPWOOD VOLUME (CORDS)	PINE PULPWOOD VOLUME (1000 CuFt)	HARDWOOD PULPWOOD VOLUME (CORDS)	HARDWOOD PULPWOOD VOLUME (1000 CuFt)	PINE SAWTIMBER VOLUME (MBF)	PINE SAWTIMBER VOLUME (1000 CuFt)	HARDWOOD SAWTIMBER VOLUME (MBF)	HARDWOOD SAWTIMBER VOLUME (1000 CuFt)	TOTAL VOLUME DAMAGED (1000 CuFt)
Berkeley	1,066,484	79,986	3,945,989	294,765	767,436	118,067	471,184	69,292	562,110
Calhoun	5,635	423	26,894	2,009	25,040	3,852	23,823	3,503	9,787
Charleston	1,110,512	83,288	3,970,225	296,576	639,166	98,333	333,806	49,089	527,287
Chester	1,426	107	7,128	532	16,125	2,481	13,050	1,919	5,039
Chesterfield	24,708	1,853	116,482	8,701	64,534	9,928	77,430	11,387	31,869
Clarendon	400,502	30,038	1,482,376	110,734	214,026	32,927	347,528	51,107	224,805
Darlington	43,369	3,253	186,765	13,951	65,117	10,018	73,639	10,829	38,051
Dillon	604	45	2,846	213	6,746	1,038	12,442	1,830	3,125
Dorchester	208,791	15,659	824,174	61,566	190,731	29,343	267,794	39,381	145,950
Fairfield	93	7	559	42	4,697	723	3,964	583	1,354
Florence	214,131	16,060	885,073	66,115	218,487	33,613	258,351	37,993	153,781
Georgetown	107,362	8,052	432,803	32,330	160,661	24,717	164,788	24,234	89,333
Horry	758	57	4,549	340	14,670	2,257	27,773	4,084	6,738
Kershaw	65,412	4,906	279,488	20,878	97,381	14,982	90,892	13,367	54,132
Lancaster	18,932	1,420	82,352	6,152	45,542	7,007	45,929	6,754	21,332
Lee	205,694	15,427	761,335	56,872	125,873	19,365	136,585	20,086	111,750
Marion	39,785	2,984	180,359	13,473	58,788	9,044	154,845	22,771	48,272
Marlboro	519	39	2,446	183	4,424	681	14,308	2,104	3,006
Orangeburg	16,068	1,205	66,745	4,986	46,164	7,102	94,922	13,959	27,252
Richland	29,919	2,244	124,785	9,321	60,954	9,378	95,152	13,993	34,936
Sumter	414,240	31,068	1533,226	114,532	207,584	31,936	395,657	58,185	235,721
Williamsburg	271,645	20,373	1072,282	80,099	254,090	39,091	332,802	48,941	188,505
York	2,514	189	11,854	885	16,331	2,512	19,931	2,931	6,517
STATE TOTALS	4,249,101	318,683	16,000,734	1,195,255	3,304,566	508,395	3,456,595	508,323	2,530,655

CONVERSION FACTORS
PINE PULPWOOD 75.0 Cubic Feet per Cord
HARDWOOD PULPWOOD 74.7 Cubic Feet per Cord
PINE SAWTIMBER 6.5 Board Feet per Cubic Foot
HARDWOOD SAWTIMBER 6.8 Board Feet per Cubic Foot

SOUTH CAROLINA FORESTRY COMMISSION

INITIAL TIMBER DAMAGE ESTIMATE FROM HURRICANE HUGO
as of September 26, 1989

COUNTY	PERCENT HEAVY DAMAGE	PERCENT MODERATE DAMAGE	PERCENT LIGHT DAMAGE	PERCENT PINE DAMAGED	TOTAL PINE VOLUME (MBF)	PINE VOLUME DAMAGED (MBF)	PINE VALUE DAMAGED	PERCENT HARDWOOD DAMAGED	TOTAL HARDWOOD VOLUME (MBF)	HARDWOOD VOLUME DAMAGED (MBF)	HARDWOOD VALUE DAMAGED	TOTAL VOLUME DAMAGED (MBF)	TOTAL VALUE DAMAGED TO SAWTIMBER	DEGRADE & DAMAGE TO YOUNG TIMBER	TOTAL VALUE DAMAGED
Berkeley	50	25	25	38	2046496	767436	$135068736	46	1018776	471184	$31569321	1238620	$166638057	$46658656	$213296713
Calhoun	0	15	35	6	455269	25040	$4407004	9	272762	23823	$1596136	48863	$6003140	$1680879	$7684019
Charleston	75	10	15	48	1324696	639166	$112493184	58	580532	333806	$22364995	972972	$134858180	$37760290	$172618470
Chester	0	5	20	2	716684	16125	$2838069	4	347994	13050	$874335	29175	$3712404	$1039473	$4751877
Chesterfield	0	25	50	9	737529	64534	$11357947	14	563124	77430	$5187780	141963	$16545726	$4632803	$21178530
Clarendon	50	30	20	39	555912	214026	$37668597	48	731638	347528	$23284379	561554	$60952976	$17066833	$78019810
Darlington	10	25	65	16	420109	65117	$11460574	22	330963	73639	$4933831	138756	$16394404	$4590433	$20984838
Dillon	0	5	10	2	385489	6746	$1187306	3	452454	12442	$833646	19189	$2020953	$565867	$2586819
Dorchester	25	25	50	24	803079	190731	$33568702	31	856940	267794	$17942181	458525	$51510883	$14423047	$65933931
Fairfield	0	0	10	1	939350	4697	$826628	1	396366	3968	$265565	8660	$1092193	$305814	$1398007
Florence	10	60	30	23	971053	218487	$38453699	31	833389	258351	$17309490	476838	$55763188	$15613693	$71376881
Georgetown	15	20	40	16	1004129	160661	$28276273	22	766458	164788	$11040827	325449	$39317100	$11008788	$50325888
Horry	0	0	20	1	1466982	14670	$2581888	2	1388656	27773	$1860799	42443	$4442687	$1243952	$5686640
Kershaw	10	30	60	17	590185	97381	$17138972	24	386776	90892	$6089788	188273	$23228761	$6504053	$29732813
Lancaster	5	20	40	10	455423	45542	$8015445	15	316751	45929	$3077236	91471	$11092681	$3105951	$14198631
Lee	50	30	20	39	326943	125873	$22153658	48	287548	136585	$9151215	262458	$31304873	$8765364	$40070237
Marion	5	20	65	11	522562	58788	$10346728	17	910854	154845	$10374627	213633	$20721355	$5801979	$26523334
Marlboro	0	5	10	2	252801	4424	$778627	3	520285	14308	$958625	18732	$1737252	$486431	$2223683
Orangeburg	5	10	20	7	710216	46164	$8124871	9	1054692	94922	$6359793	141086	$14484664	$4055706	$18540370
Richland	5	25	20	10	594678	60954	$10727991	14	667731	95152	$6375162	156106	$17103153	$4788883	$21892036
Sumter	50	30	20	39	539179	207584	$36534769	48	832963	395657	$26509047	603241	$63043817	$17652269	$80696085
Williamsburg	25	25	50	24	1069853	254090	$44719855	31	1064967	332802	$22297747	586892	$67017602	$18764929	$85782531
York	0	10	20	4	466586	16331	$2874170	6	362376	19931	$1335356	36261	$4209525	$1178667	$5388192
STATE TOTALS					17355203	3304566	$581603692		14944495	3456595	$231591882	6761162	$813195574	$227694761	$1040890335

SOUTH CAROLINA FORESTRY COMMISSION

ESTIMATE OF ACRES DAMAGED AND ACRES NEEDING REFORESTATION
BY OWNERSHIP FROM HURRICANE HUGO

as of October 6, 1989

COUNTY	FEDERAL ACRES DAMAGED	FEDERAL ACRES TO REFOREST	STATE ACRES DAMAGED	STATE ACRES TO REFOREST	INDUSTRY ACRES DAMAGED	INDUSTRY ACRES TO REFOREST	CORPORATE ACRES DAMAGED	CORPORATE ACRES TO REFOREST	INDIVIDUAL[1] ACRES DAMAGED	INDIVIDUAL[1] ACRES TO REFOREST	TOTAL ACRES DAMAGED	TOTAL ACRES TO REFOREST
Berkeley	195,704	95,259	16,538	8,050	187,435	91,234	30,320	14,758	121,282	59,034	551,280	268,336
Calhoun	0	0	800	155	3,999	773	1,400	270	60,453	11,680	66,652	12,877
Charleston	53,037	29,258	1,729	954	63,414	34,982	43,237	23,852	126,828	69,965	288,245	159,010
Chester	2,908	469	145	23	21,807	3,515	5,306	855	42,524	6,855	72,690	11,718
Chesterfield	33,191	6,823	39,042	7,978	30,823	6,298	13,613	2,782	139,987	28,604	256,857	52,484
Clarendon	2,052	658	5,129	1,645	45,135	14,479	21,541	6,911	131,300	42,121	205,157	65,814
Darlington	0	0	1,972	294	34,053	5,077	21,866	3,260	121,337	18,091	179,228	26,723
Dillon	0	0	108	17	5,403	872	1,189	192	14,911	2,406	21,610	3,486
Dorchester	0	0	1,608	426	88,413	23,429	33,222	8,804	144,675	38,339	267,917	70,998
Fairfield	1,151	0	38	0	12,889	0	1,650	0	22,633	0	38,361	0
Florence	0	0	3,020	1,072	49,413	17,537	12,353	4,384	209,731	4,434	274,517	97,426
Georgetown	0	0	4,623	1,260	167,600	45,677	35,832	9,765	80,910	2,051	288,966	78,753
Horry	161	0	181	0	29,941	0	13,610	0	46,636	0	90,732	0
Kershaw	0	0	1,037	266	82,978	21,242	45,983	11,772	215,742	55,230	345,740	88,509
Lancaster	0	0	337	77	32,034	7,269	25,121	5,701	111,106	25,213	168,598	38,259
Lee	120	54	2,753	1,242	15,562	7,021	2,753	1,242	98,518	44,451	119,706	54,011
Marion	0	0	0	0	90,679	10,327	1,851	211	92,530	10,538	185,060	21,076
Marlboro	0	0	0	0	10,357	1,302	1,208	152	14,135	1,776	25,701	3,230
Orangeburg	772	134	1,802	314	15,446	2,688	10,169	1,769	100,529	17,492	128,718	22,397
Richland	24,008	7,951	3,041	1,007	20,807	6,891	28,329	9,383	83,868	27,777	160,053	53,010
Sumter	232	89	46,160	17,799	16,237	6,261	39,665	15,295	129,665	49,999	231,958	89,443
Williamsburg	0	0	0	0	108,976	28,279	13,082	8,585	247,143	64,134	389,201	100,998
York	235	40	1,804	304	10,194	1,719	12,782	2,156	53,402	9,007	78,417	13,226
STATE TOTALS	313,973	140,716	131,868	42,883	1,143,595	336,874	416,082	132,098	2,409,845	679,195	4,435,363	1,331,785

[1] Includes Farmers and Private Individuals

SOUTH CAROLINA FORESTRY COMMISSION

ACRES OF FOREST LAND DAMAGED BY HURRICANE HUGO
BY COUNTY
as of September 26, 1989

COUNTY	TOTAL FOREST LAND ACRES	PERCENT HEAVILY[1] DAMAGE	ACRES HEAVILY[1] DAMAGED	PERCENT MODERATELY[2] DAMAGE	ACRES MODERATELY[2] DAMAGED	PERCENT LIGHTLY[3] DAMAGE	ACRES LIGHTLY[3] DAMAGED	TOTAL ACRES DAMAGED
Berkeley	551,280	50	275,640	25	137,820	25	137,820	551,280
Calhoun	133,304	0	0	15	19,996	35	46,656	66,652
Charleston	288,245	75	216,184	10	28,825	15	43,237	288,245
Chester	290,759	0	0	5	14,538	20	58,152	72,690
Chesterfield	342,476	0	0	25	85,619	50	171,238	256,857
Clarendon	205,157	50	102,579	30	61,547	20	41,031	205,157
Darlington	179,228	10	17,923	25	44,807	65	116,498	179,228
Dillon	144,069	0	0	5	7,203	10	14,407	21,610
Dorchester	267,917	25	66,979	25	66,979	50	133,959	267,917
Fairfield	383,607	0	0	0	0	10	38,361	38,361
Florence	274,517	10	27,452	60	164,710	30	82,355	274,517
Georgetown	385,288	15	57,793	20	77,058	40	154,115	288,966
Horry	453,658	0	0	0	0	20	90,732	90,732
Kershaw	345,740	10	34,574	30	103,722	60	207,444	345,740
Lancaster	259,382	5	12,969	20	51,876	40	103,753	168,598
Lee	119,706	50	59,853	30	35,912	20	23,941	119,706
Marion	205,622	5	10,281	20	41,124	65	133,654	185,060
Marlboro	171,337	0	0	5	8,567	10	17,134	25,701
Orangeburg	367,766	5	18,388	10	36,777	20	73,553	128,718
Richland	320,106	5	16,005	25	80,027	20	64,021	160,053
Sumter	231,958	50	115,979	30	69,587	20	46,392	231,958
Williamsburg	389,201	25	97,300	25	97,300	50	194,601	389,201
York	261,390	0	0	10	26,139	20	52,278	78,417
STATE TOTALS	6,571,713	(17)	1,129,899	(20)	1,260,133	(31)	2,045,331	4,435,363

[1] Average of 60% Pine damaged and 70% Hardwood damaged
[2] Average of 25% Pine damaged and 35% Hardwood damaged
[3] Average of 5% Pine damaged and 10% Hardwood damaged

SOUTH CAROLINA FORESTRY COMMISSION

ESTIMATED TIMBER DAMAGE TO PULPWOOD FROM HURRICANE HUGO
BY COUNTY
as of September 26, 1989

COUNTY	COMMERCIAL PULPWOOD VALUE	PERCENT PINE DAMAGE	PINE PULPWOOD VALUE	PINE PULPWOOD VOLUME (CORDS)	PERCENT HARDWOOD DAMAGE	HARDWOOD PULPWOOD VALUE	HARDWOOD PULPWOOD VOLUME (CORDS)
Berkeley	$42,659,343	38	$15,997,254	1,066,484	46	$19,729,946	3,945,989
Calhoun	$1,536,804	6	$ 84,524	5,635	9	$134,470	26,894
Charleston	$34,523,694	48	$16,657,682	1,110,512	58	$19,851,124	3,970,225
Chester	$ 950,375	2	$ 21,383	1,426	4	$35,639	7,128
Chesterfield	$4,235,706	9	$370,624	24,708	14	$582,410	116,482
Clarendon	$15,603,962	39	$6,007,525	400,502	48	$7,411,882	1,482,376
Darlington	$4,196,968	16	$650,530	43,369	22	$933,825	186,765
Dillon	$ 517,364	2	$ 9,054	604	3	$14,228	2,846
Dorchester	$13,186,786	24	$3,131,862	208,791	31	$4,120,871	824,174
Fairfield	$ 279,601	1	$ 1,398	93	1	$2,796	559
Florence	$14,275,376	23	$3,211,960	214,131	31	$4,425,367	885,073
Georgetown	$10,065,178	16	$1,610,428	107,362	22	$2,164,013	432,803
Horry	$1,137,328	1	$ 11,373	758	2	$22,747	4,549
Kershaw	$5,946,563	17	$981,183	65,412	24	$1,397,442	279,488
Lancaster	$2,839,726	10	$283,973	18,932	15	$411,760	82,352
Lee	$8,014,047	39	$3,085,408	205,694	48	$3,806,673	761,335
Marion	$5,304,667	11	$596,775	39,785	17	$901,793	180,359
Marlboro	$ 444,737	2	$ 7,783	519	3	$12,230	2,446
Orangeburg	$3,708,074	7	$241,025	16,068	9	$333,727	66,745
Richland	$4,378,407	10	$448,787	29,919	14	$623,923	124,785
Sumter	$16,139,217	39	$6,213,599	414,240	48	$7,666,128	1,533,226
Williamsburg	$17,156,506	24	$4,074,670	271,645	31	$5,361,408	1,072,282
York	$1,077,638	4	$ 37,717	2,514	6	$59,270	11,854
STATE TOTALS	$208,178,067		$63,736,517	4,249,101		$80,003,672	16,000,734

PINE PULPWOOD VALUE $15/CORD HARDWOOD PULPWOOD VALUE $5/CORD

SOUTH CAROLINA FORESTRY COMMISSION

ESTIMATE OF TIMBER DAMAGE
FROM HURRICANE HUGO
AS OF SEPTEMBER 26, 1989

COUNTY	VALUE OF DAMAGE TO SAWTIMBER	VALUE OF DAMAGE TO AND DEGRADING OF YOUNG TIMBER	TOTAL VALUE OF DAMAGED TIMBER
Berkeley	$166,638,057	$46,658,656	$213,296,713
Calhoun	$6,003,140	$1,680,879	$7,684,019
Charleston	$134,858,180	$37,760,290	$172,618,470
Chester	$3,712,404	$1,039,473	$4,751,877
Chesterfield	$16,545,726	$4,632,803	$21,178,530
Clarendon	$60,952,976	$17,066,833	$78,019,810
Darlington	$16,394,404	$4,590,433	$20,984,838
Dillon	$2,020,953	$ 565,867	$2,586,819
Dorchester	$51,510,883	$14,423,047	$65,933,931
Fairfield	$1,092,193	$ 305,814	$1,398,007
Florence	$55,763,188	$15,613,693	$71,376,881
Georgetown	$39,317,100	$11,008,788	$50,325,888
Horry	$4,442,687	$1,243,952	$5,686,640
Kershaw	$23,228,761	$6,504,053	$29,732,813
Lancaster	$11,092,681	$3,105,951	$14,198,631
Lee	$31,304,873	$8,765,364	$40,070,237
Marion	$20,721,355	$5,801,979	$26,523,334
Marlboro	$1,737,252	$ 486,431	$2,223,683
Orangeburg	$14,484,664	$4,055,706	$18,540,370
Richland	$17,103,153	$4,788,883	$21,892,036
Sumter	$63,043,817	$17,652,269	$80,696,085
Williamsburg	$67,017,602	$18,764,929	$85,782,531
York	$4,209,525	$1,178,667	$5,388,192
STATE TOTALS	$813,195,574	$227,694,761	$1,040,890,335

AREAS OF CONCERN

SALVAGE

SITUATION

Markets exist in or near much of the affected area for quality sawtimber. The markets are weak for pulpwood in the vicinity of most of the damage. As a rule, much of the pine and some of the hardwood is broken so that many of the larger trees are only marketable as pulpwood. There is, however, still a significant amount of sawtimber available for salvage.

It is anticipated the pine will be usable until late spring at which time deterioration will begin rendering it useless. The hardwood, depending on species, is expected to be usable up to a year or more.

The biggest obstacle to the salvage of this resource is an insufficient number of available loggers. Efforts are being made by the N.C. Division of Forest Resources to attract loggers from the eastern part of the state as well as eastern Tennessee and Virginia. This effort has met with only limited success.

Stockpiles of wood at the mills are low in most areas due to the wet conditions prevalent throughout the summer. Consequently, there is a reluctance for loggers to move from their areas of primary operation since they have ample markets locally. The "jack straw" effect of the tangled wood in the hurricane path is much more difficult and dangerous to log and production is therefore much slower. Consequently many producers have shown little interest in moving into the area. The Division is also exploring the possibility of placing several small portable mills in service to assist individuals in utilizing some of this timber for their own lumber needs.

NEEDS

The need exists to entice more loggers into the area to salvage the majority of the resource before it deteriorates. Financial grant and tax incentive opportunities to allow local individuals to develop logging businesses would be expected to be successful. In addition a continuing effort is needed to draw more established loggers into the area from elsewhere. The N.C. Division of Forest Resources is attempting to do this by using division employees to identify landowners desiring to sell damaged wood and coordinating the sale of this wood with buyers willing to move into the area, making sure adequate volumes can be guaranteed to the buyer. Even so a major shortage of wood producers continues to hamper the salvage efforts.

BY DERRYL WALDEN

DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES

NORTH CAROLINA DIVISION OF FOREST RESOURCES

North Carolina sustained major damage to its forest resources from Hurricane Hugo on September 22, 1989. The storm entered the piedmont region of the state and traveled through the foothills and a portion of the mountains (See Appendix A). Significant damage occurred in 26 of the states 100 counties with local areas of damage in other counties. A total of 2.7 million acres of woodlands received appreciable impact from Hugo.

A survey of the area in the storm's path indicates 3.02 billion board feet of sawtimber and 6.5 million cords of pulpwood were damaged or destroyed. Hardwoods make up 65.4% of the sawtimber and 67.9% of the pulpwood volumes or, approximately, two-thirds of the damaged timber. The other one-third involves both white and yellow pine. The stumpage value of the damaged resource has been calculated at $272,812,057 (See Appendix B and C).

An urban forestry survey shows tree losses in 103 municipalities, including costs of removal, replacement, maintenance, etc. to exceed $23,000,000.

FIRE POTENTIAL

SITUATION

The large continuous blocks of blown-down timber have created a potentially disastrous fire situation for the next several years. The increased amount of available, dried fuel will greatly increase fire intensity and the entanglement of stems will make a direct attack on an initiating fire virtually impossible. It is likely that large blocks may burn before access can be gained to begin containment actions. Also because many of these areas are in close proximity to developments, protection of homes and other real property will be more difficult. Effective initial attack will in many instances be restricted to the use of aircraft.

NEEDS

The fire suppression resources of the state will have to be expanded significantly to be prepared for the tremendous fire potential during dry periods. Plans are underway within the Division to aerially survey and map out areas needing special consideration.

Supplemental federal funding is needed to help cover costs of the increased preparedness. Specific needs include the contracting of at least one aerial tanker of the Canadian CL-215 type to be stationed in the area during the spring; activation and support of two helicopters for the area; three additional fire control tractors w/support; twelve seasonal fire fighters; and other support equipment. The estimated cost is $2,646,000 (See Appendix D).

REFORESTATION

SITUATION

The majority of the damaged forests will require some type of reforestation activity to return them to a productive state. On those areas where salvage is not accomplished, both removal of the debris and probable landowner frustration and disillusionment will be obstacles to successful reforestation activities. Overall, reforestation will require more intensive site preparation and therefore be more costly than that normally required if proper planning of harvest had occurred. Peforestation of roughly 60% of the area is anticipated to involve establishing pine plantations. This will involve some amount of clearing of the debris either by burning or by mechanical equipment followed by planting pine seedlings. This will cost $100 to $150 per acre. Steps to enhance the rapid establishment of quality hardwood should be done on the remaining million acres. This can only be done by the

elimination of down and damaged trees so as to permit sprouts and seedlings of the desired species to develop and grow properly. This will require labor intensive mechanical work at a cost of $40 to $75 per acre.

NEEDS

An effective reforestation program on these lands will greatly exceed current cost-share appropriations of both the federal and state incentives programs. To seriously meet this need, significant additional funding must be provided to support landowners in site preparation and tree planting costs. A primary concern which must be addressed first, however, is the anticipated reluctance by many landowners to reforest their land after either selling their timber at a minimal rate or not being able to sell it at all. Many are further frustrated upon learning they can get little or no tax relief on this loss if they don't have a previously established tax basis on the timber itself separate from the land.

PROBABLE SPECIES CHANGE

SITUATION

We anticipate an exacerbation of current trends which are producing a significant shift in the species composition of mountain forests. Two timber types, the oak-pine and oak-hickory, account for 50 to 75% of the forest area in each of the impacted counties. A severe, unmanaged or undirected disturbance in these type results in a species shift - most often to a higher component of Virginia pine or yellow poplar. The percentage of oak in the ensuing stand is invariably reduced. In addition oak stems appear to have been disproportionately damaged in the storm.

Oak has been and is likely to remain the most valuable forest product of the area. Any reduction of future volumes of oak stumpage will have an adverse impact upon the economy of the region. This impact will be on both the forestry markets which are dependent on oak as a major, quality species and on other areas of concern. Oak mast (acorns) is the preferred and most available high energy food for a wide array of wildlife species. Sharp reduction in mast production will have a strong negative impact upon the wildlife carrying capacity of the region. The replacement of the deep rich hues of oak fall foliage will perhaps negatively influence the attractiveness of fall coloration so essential to tourist contribution to the regional economy.

NEEDS

The rehabilitation of damaged stands to enhance the future development of existing oak, both trees and seedlings, must be a priority item in the overall efforts to rebuild these forests.

The importance of stimulating stumpage markets for other less valuable species throughout the region is increased. There already exists a need for more better utilization of the lesser species. As this species shift occurs, the need becomes more critical.

Emphasis is needed in expanding current efforts in the stimulation of oak establishment via pre-harvest treatments.

SUMMARY

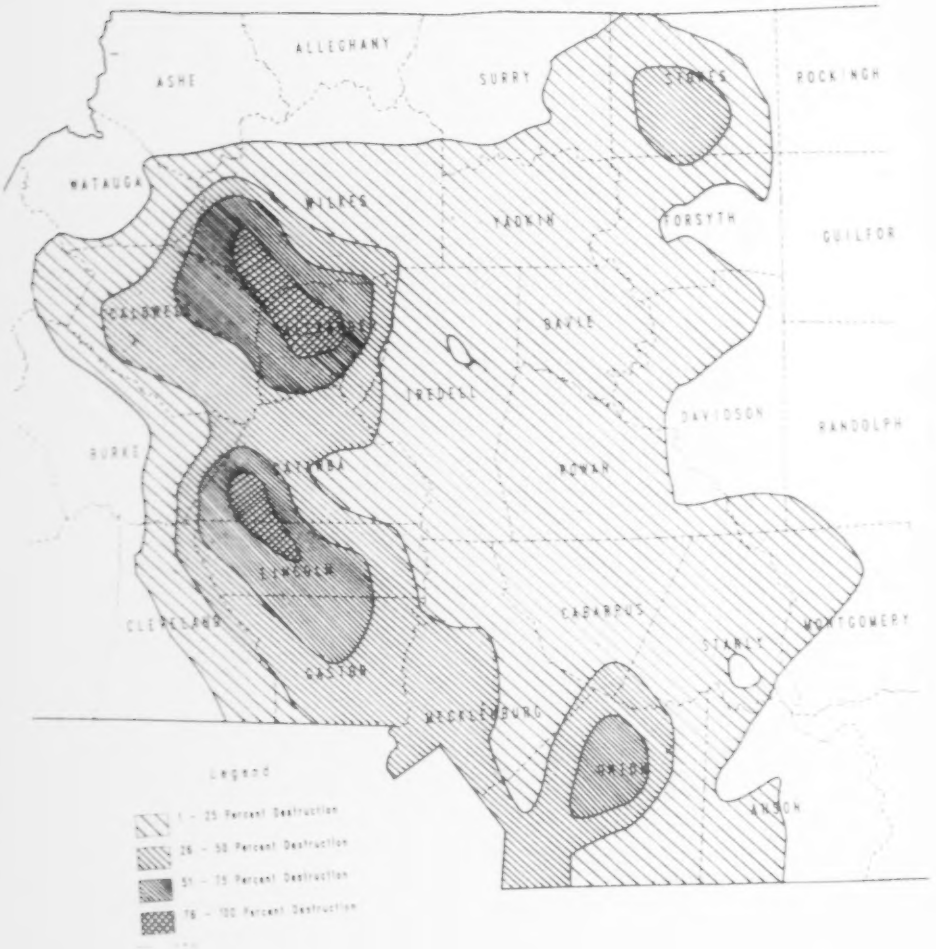
The forest resource in western North Carolina will be impacted for a long time by the devastation of Hurricane Hugo. A continuing, aggressive, effort must be maintained by all interested parties to see that those damaged resources which are usable are harvested for use. To accomplish this, logging capabilities in the area must be enhanced.

It is also essential that proper planning be done, that equipment and man power be sited, to prepare to meet the increased fire hazard and to protect the very high values which will be at risk in this area over the next two to three years. In many areas the values at risk rival those of Southern California. Now the fuels will do likewise.

The longer range damage -- a pervasive change in the ecology of the region can only be meet over time. The Division of Forest Resources, with computer modeling, is currently attempting to simulate the impact of Hugo over the next three decades on the timber types, volumes and values upon the area involved. Correcting for these changes can only be accomplished by innovative and creative action on the part of the forestry community. Cost share assistance for both tried and true methodology as well as that which is more speculative will be required.

N.C. WOODLAND DESTRUCTION
HURRICANE HUGO
SEPTEMBER 22, 1989

APPENDIX A



APPENDIX B

October 20. 1989

Summary of Timber Damage in North Carolina on 2.7 Million Acres in 26 Counties by Hurricane Hugo.

	Damage Volume	Stumpage Value	(1) Years Annual Cut	(2) Years Annual Cut
Pine Sawtimber	1,046 MMBF	$116,120,652	3.6	.67
Pine Pulpwood	2,086 MCDS	22,946,000	8.8	.82
Hardwood Sawtimber	1,973 MMBF	100,656,405	6.7	2.5
Hardwood Pulpwood	4,412 MCDS	33,090,000	37.4	2.7
		$272,812,057		

(1) Based on annual cut for 26 county area 1987 Drain Survey.

(2) Based on annual cut for entire State 1987 Drain Survey.

APPENDIX C

NORTH CAROLINA FOREST

DAMAGE APPRAISAL - HURRICANE HUGO

SEPTEMBER 1989

BY

COLEMAN DOGGETT

Hurricane Hugo struck the S.C. Coast and came inland into N.C. on September 22, 1989. A considerable amount of forest damage occurred as a result of the high winds associated with the storm. Primary damage types consisted of (1) windthrow (trees uprooted) and (2) top breakage. In order to determine the amount of forest damage caused by the storm, a damage appraisal was conducted on September 27-29, 1989.

Methods - In order to arrive at a quantitative damage estimate, the state was first girded in 12 mile blocks. Each grid intersection was located on the ground and a form completed documenting timber types and amount of damage (Figure 1). Amount of damage was determined by classing 20 trees nearest plot center as: 1. Windthrown, 2. Top completely gone (less than three living limbs remaining), 4. Top broken or 5. Undamaged.

In order to generate a meaningful map, numbers of trees completely destroyed (windthrown or top gone) were enumerated. These were then separated into damage classes and used by the Land Resources Information service personnel to produce a

computer generated map. Damage classes used were 1-25%, 26-50%, 51-75%, and 76-100%. It is important to note that considerable damage occurred over widespread areas outside the 1% contour line. This damage, however, averaged less than 1% and so was not included in the map.

Having mapped damage classes, percentage of total acreages in each county were calculated by damage class by Land Resources Information Services personnel. These were then applied to amounts of commercial timberland in each county. Amounts of commercial timberland were obtained from the latest U.S. Forest Timber Survey (Bechtold, 1984).

After obtaining acreages damaged, average value of woodland was obtained for each county. This was done by applying values published by Norris (1984) to volumes obtained from U.S. Forest Service survey information (Bechtold, 1984). Values used were pine sawtimber $139 per MBF Scribner, Hardwood Sawtimber $84 per MBF Doyle, pine pulpwood $11 per cord and hardwood pulpwood $7.50 per cord.

The average values per acre were then multiplied by mean damage levels for each damage class and the resultant figures were multiplied by acreages in that damage class to obtain loss for that class. Damages obtained for each damage class were then totaled to obtain total county losses.

Statistical analysis consisted of determination of co-efficients of variations for means of the various damage classes and computation of numbers of plots needed to obtain 10% accuracy at the 68% confidence level.

Results - A total of 117 plots were examined for damage. Of these, 38 plots contained trees with tops completely broken out or windthrown trees. Average percentage of destruction (windthrown and top completely gone) trees in all plots was found to be 26.3%. When trees were separated into damage classes, average destruction in the 1-25% class were found to be 11.08%, in the 26-50% class destruction was 41.25% in the 51-75% class destruction was 70% and in 76-100% class destruction was 80%. Figure 2 is a map of the destruction by damage class.

The pattern of damage is interesting. Major damage is found near the path taken by the eye of the storm. Lighter damage (1-25%) is much more widespread on the east side of the storm path than on the west. There was a considerable increase in damage when the storm reached the beginning of the upthrust mountain area. This is evident in the damage concentrated in the Caldwell, Alexander and Wilkes county area.

While no specific information was collected on topographical relationship to damage, all field people collecting damage data reported that damage was more severe in stream and river drainages than in upland areas. This was not related to softer

soils which may have contributed to windthrow, since breakage was also noted to be heavier in drainages than on uplands.

A total of 2,709,465 acres of timber sustained more than 1% average destruction. As previously noted there is considerable scattered breakage outside the area mapped, but numbers of plots required to accurately assess this damage were not considered justified.

Amounts of damage by damage class and county are shown in Table II.

The most heavily damaged counties in terms of dollar damages were Caldwell, Lincoln, Wilkes, Union, Gaston, Mecklenburg and Catawba. The financial damage which occurred in these counties was influenced by both storm severity and total woodland acreage affected. The amounts of damage in both Caldwell and Wilkes reflects not only a high damage level, but the considerably higher acreages of woodland affected in these counties. Wilkes county for example, has almost three times as much commercial timberland as does Catawba. Total damage for the state was calculated at $249,171,068.

Statistically, all calculated co-efficients of variation were low. Highest variation occurred in the 1-25% range and lowest variation occurred in the 51-75% range. Table III details statistical information on the survey.

Reference Cited

Bechtold, William H. 1984. Forest Statistics for North Carolina. U.S.D.A. Forest Service S.E. For. Expt. Stat. Res. Bull SE-78 62p.

Norris, F.W. 1989 Timber Mart South. Timber Mart South, Inc. Highlands, N.C. 14(2) 33p.

FIGURE I

Hurricane Hugo Damage Survey

September, 1989

Plot Number _____ Date _____ Reporter _____

Av. DBH Pine _____ Av. DBH Hdw. _____

Number of trees in plot under 8" DBH _____

	Pine	Hardwood
No. Down	_____	_____
Top Out Completely	_____	_____
Top Broken	_____	_____
No. Undamaged	_____	_____

INSTRUCTIONS

1. Go to point on road nearest plot center. If plot is within two chains of a road go to the plot and mark plot center. If over two chains from the road go only two chains toward the plot and mark a plot center. If plot falls into non-forested area, go to nearest forested area , go two chains toward plot and mark plot center.

2. If there is no damage, mark negative on the report.

3. If there is damage, complete the form for the 20 trees nearest plot center.

4. Return forms to Coleman Doggett, C.O.

Table I

Acreage of Timberland Damaged In North Carolina
By Hurricane Hugo
By Percentage Class and County
September 1989

County	Damage Class*(% Destroyed)				
	1-25	26-50	51-75	76-100	Total
Alexander	962	26,071	51,714	28,101	106,848
Anson	92,532				92,532
Ashe	18,273				18,273
Avery	31,004				31,004
Burke	64,667	20,409	2,752		87,828
Cabarrus	94,290	4,443			98,733
Caldwell	76,366	148,121	63,110	576	288,173
Catawba	32,013	45,206	16,773	8,080	102,072
Cleveland	58,589	11,797			70,386
Davidson	76,203				76,203
Davie	71,063				71,063
Forsythe	55,285	1,067			56,352
Gaston	5,196	75,670	27,388		108,254
Iredell	150,466	5,696			156,162
Lincoln	6,620	31,630	47,262	6,436	91,948
Mecklenburg	76,571	67,758			144,329
Montgomery	75,600				75,600
Randolph	6,582				6,582
Rowan	131,820				131,820
Stanley	89,084	4,944			94,028
Stokes	79,632	47,779			127,411
Surry	59,231				59,231
Union	69,733	73,340	28,638		171,756
Watauga	27,954	4,732			32,686
Wilkes	187,013	55,544	55,944	24,775	323,276
Yadkin	86,915				86,915
Totals	1,723,664	624,207	293,626	67,968	2,709,465

*Trees either uprooted or top completely broken out.

Table II
Loss Per County ($)
By Damage Class

	Damage Class				
	1-25	26-50	51-75	76-100	Total
County					
Alexander	34,035	34,339,51	11,558,958	7,178,599	22,205,543
Anson	4,359,689				4,359,689
Ashe	263,933				263,933
Avery	927,103				927,103
Burke	2,932,290	3,445,442	788,398		7,166,230
Cabarrus	3,231,495	563,127			3,794,622
Caldwell	3,060,387	22,099,226	15,978,379	166,667	41,274,658
Catawba	944,612	4,966,009	4,466,818	1,721,428	12,098,866
Cleveland	2,009,169	1,506,108			3,515,277
Davidson	2,148,311				2,148,311
Davie	2,688,502				2,688,502
Forsythe	2,231,468	177,653			2,409,121
Gaston	309,546	16,782,264	10,307,419		27,399,299
Iredell	5,743,873	809,508			6,553,381
Lincoln	414,191	7,367,592	18,681,534	2,907,424	29,370,741
Mecklenburg	3,272,135	10,779,823			14,051,958
Montgomery	2,685,081				2,685,081
Randolph	185,209				189,209
Rowan	3,960,470				3,960,470
Stanly	3,926,290	811,233			4,737,523
Stokes	2,411,828	5,387,410			7,799,238
Surry	1,714,268				1,714,268
Union	2,639,421	9,826,364	6,858,898		19,324,664
Watauga	1,008,605	635,633			1,644,238
Wilkes	4,653,738	5,145,784	8,795,124	4,447,780	23,042,426
Yadkin	3,850,628				3,850,628
				Total	249,171,068*

*Note: The total estimate using more precise value figures has been revised to $272,812,057.

Table III
Statistical Information
Hurricane Hugo Analysis
September 1989

Damage Class (%)	N	Mean	S^2	S	C.V.	# of Samples Needed
1 - 25%	26	11.08	43.38	6.59	.59	9
26 - 50%	7	41.25	42.19	6.49	.16	1
51 - 75%	3	70	16.67	4.08	.06	1
76 - 100%	2	80	----	----	0	1

*Samples needed to obtain mean $\pm$ 10% at 68% confidence level

APPENDIX D

10/16/89

TO: Bobby James
USFS, Region 8 (Atlanta)

FROM: David Jarman
N. C. Division of Forest Resources

Below is a quick listing of Division needs for increased fire suppression due to extensive timber blow down from Hurricane Hugo.

1.	Lease a CL-215 to work in the Piedmont area most damaged by Hugo	
	Base Operating Costs	$ 20,000
	Supplies & Support (Foam)	20,000
	Lease of CL-215	250,000
		$290,000
2.	Place (2) UH-1H model helicopters in service in areas damaged by Hugo	$ 400,000
	(2) Chase truck fuel vehicles	140,000
	(2) Crew Vehicles	44,000
	(2) Sets - tools, radios, & safety equipment	30,000
	(2) Sets - helicopter mechanic tools	70,000
	Personnel - 2 sets (pilot, mechanic/crew chief, 2 crew leaders, 6 crewman, & chase driver)	290,000
	Operating Costs	380,000
		$1,354,000
3.	Equip each impacted county with two 10-man tool trailers (kit to have equipment necessary to outfit crew - two saws, two portable radios, safety equipment, etc.)	$ 140,000
4.	Operate two portable saw mills to salvage timber reducing fuel loads	$ 230,000
5.	Three fire control tractors - medium units complete (tractor, hauling unit, radios, fire plow)	$ 471,000
	Personnel (operator & crewman)	80,000
6.	Twelve additional tractor crewman - go with existing equipment and work as hand crew	$ 72,000
7.	Purchase 30 more chain saws to distribute in affected counties	9,000
		$2,616,000

Governor's Forest Disaster Salvage Council
5500 Broad River Road, PO Box 21707, Columbia SC 29221

STATEMENT OF R. SCOTT WALLINGER
BEFORE THE
HOUSE SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
MONCKS CORNER, SOUTH CAROLINA
NOVEMBER 6, 1989

MY NAME IS SCOTT WALLINGER, AND I LIVE IN SUMMERVILLE, ABOUT 20 MILES FROM HERE. I AM A SENIOR VICE PRESIDENT OF WESTVACO CORPORATION, A MAJOR PRODUCER OF PAPER AND CHEMICAL PRODUCTS. WE HAVE FOUR DIVISIONS WITH OPERATIONS BASED IN THE CHARLESTON AND SUMMERVILLE AREA. ONE OF MY RESPONSIBILITIES IS OUR TIMBERLANDS DIVISION, WHICH HAS ITS HEADQUARTERS IN SUMMERVILLE. WE OWN 520,000 ACRES OF WOODLANDS IN SOUTH CAROLINA, AND SOME 200,000 ACRES WERE IN THE PATH OF THE STORM. LIKE OTHER LANDOWNERS, WE HAD EXTENSIVE DAMAGE TO STANDING TREES AND YOUNG PLANTATIONS, AND WE'RE BUSY WITH SALVAGE ACTIVITIES.

HOWEVER, I AM HERE THIS MORNING AS CHAIRMAN OF THE GOVERNOR'S FOREST DISASTER SALVAGE COUNCIL.

THE COUNCIL CONSISTS OF SEVENTEEN PEOPLE APPOINTED BY THE GOVERNOR WHO REPRESENT STATE AND FEDERAL AGENCIES CONNECTED WITH FORESTRY, THE GENERAL ASSEMBLY, CONSULTING FORESTERS AND PRIVATE INDUSTRY. OUR EXPLICIT PURPOSE IS TO FACILITATE A VERY ACTIVE SALVAGE EFFORT TO MAXIMIZE THE RECOVERY OF TIMBER VOLUME AND VALUE BY LANDOWNERS.

I AM ATTACHING TO MY STATEMENT COPIES OF THE EXECUTIVE ORDER CREATING THE COUNCIL, ITS MEMBERSHIP, ITS COMMITTEE STRUCTURE, AND THE STATEMENT OF PRIORITIES AND OBJECTIVES THE COUNCIL ADOPTED AT ITS FIRST MEETING THE DAY AFTER IT WAS CREATED.

OUR WORK IS FOCUSED ON FINDING MARKETS FOR WOOD OVER AS BROAD AN AREA AS POSSIBLE SO THAT SALVAGE IS NOT LIMITED TO THE CAPACITY OF LOCAL MILLS. WE ARE PROMOTING THE EXTENDED STORAGE OF SAWLOGS AND PULPWOOD SO THAT ADDITIONAL VOLUMES CAN BE RECOVERED FOR USE OVER THE NEXT YEAR OR TWO. WE ARE SEEKING LOGGING CAPACITY TO INCREASE THE RATE OF TIMBER MOVEMENT. WE ARE OBTAINING TEMPORARY REMOVAL OF REGULATORY BARRIERS THAT MIGHT IMPEDE ACCELERATED SALVAGE, STORAGE AND TRANSPORT OF WOOD. INITIAL EFFORTS HAVE BEEN HAMPERED BY EXTREMELY WET GROUND CONDITIONS FOLLOWING THE STORM, BUT SALVAGE WORK IS NOW ACCELERATING. MR. MAC LUPOLD, OUR ENERGETIC EXECUTIVE SECRETARY WILL DESCRIBE OUR ACTIONS IN MORE DETAIL IN A SEPARATE STATEMENT.

THE COUNCIL WORKS WITHIN THE FRAMEWORK OF ANTITRUST LAWS THAT PROHIBIT COMPANIES FROM AGREEING TO SET PRICES, ALLOCATE TERRITORIES OR AGREE ON QUOTAS. WE SET NO PRIORITIES THAT FAVOR ONE LANDOWNER OR CLASS OF LANDOWNERS, PRIVATE OR PUBLIC, OVER ANOTHER. WE SEEK TO FOSTER A SALVAGE EFFORT THAT DOESN'T DAMAGE FOREST SOILS OR THE ENVIRONMENT SO THAT LANDOWNERS CAN REBUILD OUR FOREST TO FULL PRODUCTIVITY.

THERE IS A LIMITED ROLE FOR THE FEDERAL GOVERNMENT IN THE SALVAGE EFFORT ITSELF, BECAUSE THAT RELIES MAINLY ON PRIVATE SECTOR ACTIVITY. HOWEVER, WE ARE SEEKING $30 MILLION IN FEDERAL FUNDS TO PROVIDE WORKING CAPITAL FOR SMALL BUSINESSES, LARGE LOGGERS AND PERHAPS SOME LANDOWNERS TO INVENTORY SALVAGE TIMBER UNDER WATER STORAGE FOR UP TO TWO YEARS TO INCREASE THE VOLUME AND VALUE RECOVERY. THERE IS A DISTINCT ROLE FOR

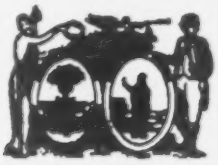
THE FEDERAL GOVERNMENT IN FINDING WAYS TO HELP PRIVATE LANDOWNERS IN THREE STATES OFFSET MORE THAN $1 BILLION IN UNINSURABLE LOSSES IN STANDING TIMBER. THERE IS AN EQUALLY DISTINCT ROLE FOR THE FEDERAL GOVERNMENT IN FINDING WAYS TO HELP PRIVATE LANDOWNERS AND THE NATIONAL FOREST TO REFOREST THE TREMENDOUS AREA OF FOREST THAT WAS DESTROYED. THERE IS A ROLE FOR THE FEDERAL GOVERNMENT TO HELP DEAL WITH A TERRIBLE WILDFIRE THREAT FOR TWO OR THREE YEARS.

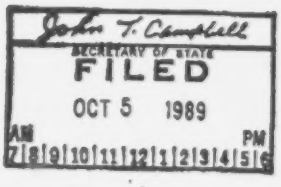
OUR SALVAGE COUNCIL ADOPTED A SLOGAN THAT APPEARS ON OUR MATERIALS AND GUIDES OUR OWN THINKING. IT IS: "SEEKING UNPRECEDENTED SOLUTIONS TO UNPRECEDENTED CHALLENGES." WE RECOGNIZE THAT IT ISN'T ENOUGH TO SAY, "THIS HAS NEVER BEEN DONE BEFORE," OR "HOW DID OTHERS DO THIS?" NO STORM BEFORE HAS DONE SUCH EXTENSIVE AND DESTRUCTIVE DAMAGE TO A FOREST AREA BEFORE, AND THERE ARE TRULY NO PRECEDENTS TO DEAL WITH IT.

I HOPE OUR SLOGAN MIGHT GUIDE YOUR OWN THINKING AS YOU ASSESS THE IMPACT OF HUGO AND THE ENORMOUS CHALLENGE WE FACE TO SALVAGE THE TIMBER AND RESTORE OUR FOREST. LANDOWNERS AND INDUSTRY AND FORESTERS ARE RESPONDING TO AN UNPRECEDENTED SITUATION, AND WE NEED A GOVERNMENT RESPONSE THAT RISES EQUALLY TO THE CIRCUMSTANCES.

I WILL BE GLAD TO ANSWER ANY QUESTIONS YOU HAVE, AND THEN I WILL LISTEN EAGERLY ALONG WITH YOU TO THE OTHER STATEMENTS TODAY. WHAT PEOPLE HAVE TO SAY WILL BE USEFUL TO THE SALVAGE COUNCIL TO GUIDE OUR OWN ACTIONS IN THE DAYS AHEAD.

Executive Department





State of South Carolina

EXECUTIVE ORDER NO. 89-45

WHEREAS, HURRICANE HUGO HAD A TREMENDOUS IMPACT CAUSING SIGNIFICANT DAMAGE TO TWENTY-FOUR COUNTIES; AND

WHEREAS, AS A RESULT OF HURRICANE HUGO, APPROXIMATELY 36% PERCENT OF THE STATE'S 12.2 MILLION ACRES OF FOREST LAND RECEIVED DAMAGE, CAUSING A GREAT LOSS TO THE STATE'S FOREST PRODUCT INDUSTRY; AND

WHEREAS, THE FOREST PRODUCTS INDUSTRY IS THE THIRD LARGEST MANUFACTURING INDUSTRY IN SOUTH CAROLINA VALUED AT $4.3 MILLION ANNUALLY, PROVIDING EMPLOYMENT FOR 40,000 PEOPLE; AND

WHEREAS, SAWTIMBER VOLUME DAMAGE IS ESTIMATED TO TOTAL 6.7 BILLION BOARD FEET WHICH REPRESENTS THREE TIMES THE ANNUAL WOOD HARVEST IN SOUTH CAROLINA FOR A TOTAL TIMBER STUMPAGE VALUE DAMAGE OF $1.04 BILLION; AND

WHEREAS, AS A RESULT OF THIS SITUATION, AN EMERGENCY EXISTS MAKING IT NECESSARY TO SALVAGE AND USE AS MUCH OF THE DAMAGED TIMBER AS POSSIBLE IN THE SHORTEST LENGTH OF TIME POSSIBLE SO AS TO MINIMIZE TOTAL WASTE AND ROTTAGE OF THIS VALUABLE NATURAL AND FINANCIAL RESOURCE; AND

WHEREAS, IT IS ESSENTIAL FOR THE STATE TO TAKE ACTION TO PROMOTE THE GENERAL WELFARE OF THIS IMPORTANT SECTOR OF ITS ECONOMY; AND

WHEREAS, OVERSIGHT OF THE PROBLEMS OF HARVEST, SALVAGE, FIRE PREVENTION AND REFORESTATION OF THE DAMAGED AND DESTROYED TIMBER AND PULPWOOD IS NECESSARY TO DEVELOP AN EFFICIENT AND EXPEDITIOUS PLAN FOR SOLVING THESE PROBLEMS IN THE FOREST PRODUCTS INDUSTRY.

NOW, THEREFORE, BY VIRTUE OF THE AUTHORITY VESTED IN ME AS GOVERNOR OF THE STATE OF SOUTH CAROLINA AND PURSUANT TO THE CONSTITUTION AND LAWS OF THIS STATE, I HEREBY CREATE THE GOVERNOR'S FOREST DISASTER SALVAGE COUNCIL TO CONSIST OF SEVENTEEN (17) MEMBERS SELECTED BY THE GOVERNOR REPRESENTING ALL SECTORS OF THE FOREST PRODUCTS INDUSTRY AND ITS REGULATORY STATE AND FEDERAL AGENCIES; IN PARTICULAR ONE MEMBER SHALL BE APPOINTED FROM EACH OF THE FOLLOWING AGENCIES: THE U. S. FOREST SERVICE; S. C. FORESTRY ASSOCIATION; S. C. FORESTRY COMMISSION; S. C. SOCIETY OF CONSULTING FORESTERS; AND THE AGRICULTURE STABILIZATION AND CONSERVATION SERVICE. ADDITIONAL MEMBERS SHALL INCLUDE THE GOVERNOR OR HIS DESIGNEE; THE COMMISSIONER OF AGRICULTURE OR HIS DESIGNEE; TWO MEMBERS OF THE S. C. STATE SENATE AND TWO MEMBERS OF THE S. C. HOUSE OF REPRESENTATIVES; A REPRESENTATIVE OF THE CLEMSON UNIVERSITY EXTENSION SERVICE; AND FIVE MEMBERS REPRESENTING MAJOR TIMBER PRODUCERS AND CONSUMING CORPORATIONS LOCATED IN SOUTH CAROLINA. THE CHAIRMAN SHALL BE APPOINTED BY THE GOVERNOR. THE COUNCIL MAY ENGAGE AN EXECUTIVE SECRETARY WITH MONEY RAISED BY THE COUNCIL. THE COUNCIL IS CHARGED WITH THE FOLLOWING DUTIES:

A. MAKE IMMEDIATE DETERMINATIONS OF ALL FACTORS THAT RELATE TO NEEDED ASSISTANCE TO THE FOREST PRODUCTS INDUSTRY;

B. TO EXPLORE IN DETAIL AND IN DEPTH ALL AVENUES OF ASSISTANCE; AND

C. TO MAKE SPECIFIC RECOMMENDATIONS OF THE MOST EFFICIENT AND EFFECTIVE PROCEDURES FOR REALIZING THE GREATEST RETURN ON THESE DAMAGED RESOURCES.

THE COUNCIL SHALL ESTABLISH SUBCOMMITTEES TO WORK UNDER THE COUNCIL'S DIRECTION. EACH SUBCOMMITTEE SHOULD BE MADE UP OF INDIVIDUALS SELECTED ON THE BASIS OF EXPERTISE ON THE MATTERS IN THEIR CHARGE. THESE COMMITTEES SHALL DO THE FOLLOWING:

1. INFORMATION: TO DEVELOP AN INFORMATIVE NETWORK TO INFORM RESIDENTS, HOMEOWNERS AND THE GENERAL PUBLIC OF SALVAGE EFFORTS.

2. UTILIZATION: SHALL CONTACT LARGE WOOD USERS BOTH INSIDE AND OUTSIDE OF SOUTH CAROLINA TO MAXIMIZE EFFORTS TO PROCESS AND PRESERVE WOOD FOR AS LONG AS POSSIBLE.

3. TRANSPORTATION: SEEKS SOLUTION IN THE READINESS AND IN DEVELOPING A TRANSPORTATION NETWORK TO GET SALVAGE TIMBERS TO CONSUMERS.

4. ENVIRONMENT: TO SERVE THE NEEDS OF THE TIMBER INDUSTRY WITH RESPECT TO ENVIRONMENTAL REQUIREMENTS AND CONCERNS.

5. INSPECTION: TO PROVIDE CONSTANT REVIEW OF CONDITIONS IN THE FIELD SO AS TO ENSURE MAXIMUM SALVAGE EFFORTS.

THIS COUNCIL SHALL CONTINUE TO OPERATE UNTIL THE CRISIS HAS BEEN ALLEVIATED. IT SHALL BE THE DUTY OF EVERY DEPARTMENT, AGENCY, OFFICE AND INSTITUTION OF THE STATE OF SOUTH CAROLINA AND THE OFFICERS THEREOF, TO COOPERATE WITH AND ASSIST THE COUNCIL IN

EVERY REASONABLE WAY TO INSURE THE SUCCESS OF THEIR EFFORTS TO SALVAGE THE DAMAGED TIMBERS IN THIS STATE.

GIVEN UNDER MY HAND AND THE GREAT SEAL OF THE STATE OF SOUTH CAROLINA, THIS 5th DAY OF OCTOBER, 1989.

CARROLL A. CAMPBELL, JR.
GOVERNOR

ATTEST:

JOHN T. CAMPBELL
SECRETARY OF STATE

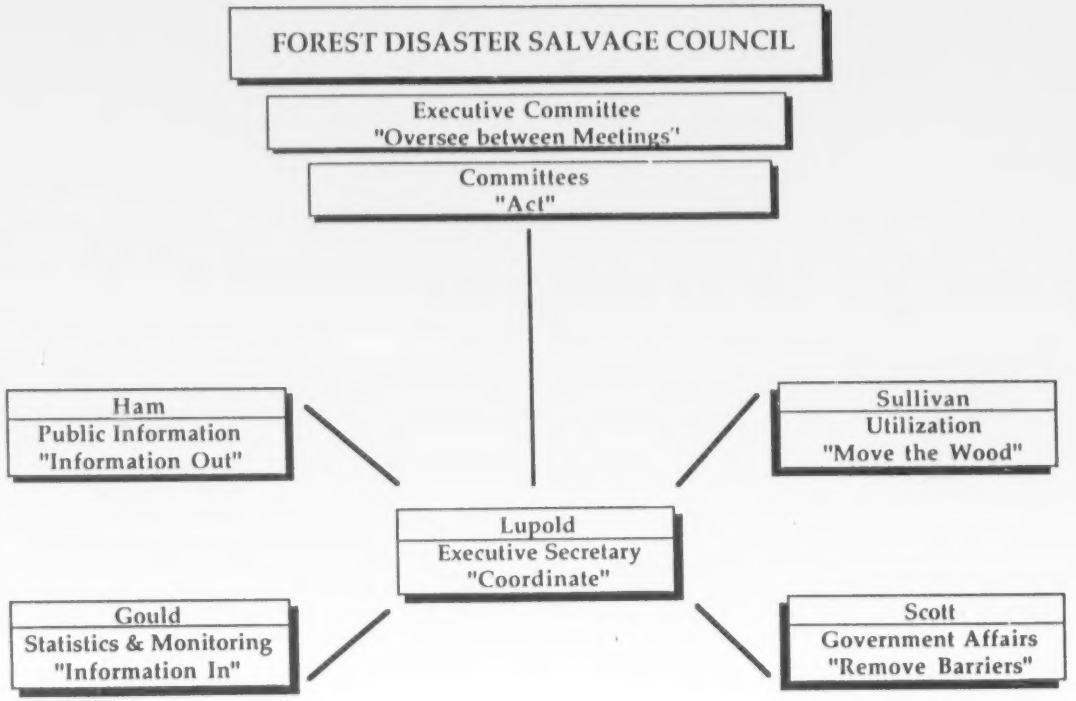
Attachment II

GOVERNOR'S FOREST DISASTER SALVAGE COUNCIL

Organization	Representative
S. C. Forestry Commission	Robert J. "Jack" Gould Acting State Forester S. C. Forestry Commission P. O. Box 21707 Columbia, S. C. 29221
S. C. Forestry Association	Robert R. Scott President S. C. Forestry Association P. O. Box 21303 Columbia, S. C. 29221
U. S. Forest Service	Donald W. Eng U. S. Forest Service P. O. Box 2227 Columbia, S. C. 29201
Clemson Cooperative Extension Service	Donald L. Ham College of Forestry Clemson University Clemson, S. C. 29631
S. C. Society of Counsulting Foresters	Dwight L. Stewart, Jr. Dwight L. Stewart, Jr. & Asso. P. O. Box 126 Manning, S. C. 29102
Forest Industry	Collum's Lumber Mill Mitchell S. Scott P. O. Box 535 Allendale, S. C. 29810
	Georgia-Pacific Corporation James H. Haygreen P. O. Box 200 Alcolu, S. C. 29001
	International Paper Company William C. Sullivan P. O. Box 518 Georgetown, S. C. 29440
	Stone Container Corporation Edward C. Lee P. O. Box 21607 Columbia, S. C. 29221

Forest Disaster Salvage Council
Page two

Organization		Representative
	Chairman:	Westvaco R. S. Wallinger Timberlands Division P. O. Box 1950 Summerville, S. C. 29484
Governor's Office		Ralph Strong Division of Energy, Agriculture and Natural Resources Governor's Office P. O. Box 11369 Columbia, S. C. 29211
Legislature	Senate:	Hon. John Drummond P. O. Box 748 Greenwood, S. C. 29646
		Hon. John E. Courson P. O. Box 11619 Columbia, S. C. 29211
	House:	Hon. Thomas A. Limehouse P. O. Drawer 2005 Summerville, S. C. 29484
		Hon. Woodrow M. McKay Route 1, Box 391 Timmonsville, S. C. 29161
S. C. Dept. of Agriculture		Commissioner D. Leslie Tindal P. O. Box 11280 Columbia, S. C. 29211
Agriculture Stablilzation and Conservation Service		Mr. G. Bryan Patrick, Jr. U. S. Dept. of Agriculture 909 Strom Thurmond Fed. Bldg. Columbia, S. C. 29201


FOREST DISASTER SALVAGE COUNCIL
Executive Committee
"Oversee between Meetings"
Committees
"Act"
Ham
Public Information
"Information Out"
Sullivan
Utilization
"Move the Wood"
Lupold
Executive Secretary
"Coordinate"
Gould
Statistics & Monitoring
"Information In"
Scott
Government Affairs
"Remove Barriers"

Governor's Forest Disaster Salvage Council
5500 Broad River Road, PO Box 21707, Columbia SC 29221

SOUTH CAROLINA FOREST DISASTER SALVAGE COUNCIL

OBJECTIVES AND PRIORITIES

Immediate Objectives

1. Initiate an aggressive salvage program to save as much downed timber as possible.

   A. Companies from several adjoining states will be asked to procure as much wood as possible from the salvage area.

   B. This is the responsibility of the Utilization Committee.

2. Promote an aggressive program of storage of salvaged logs and pulpwood both under standing water and under water spray, both by individual companies and through collective storage facilities where feasible--to absorb one-third of the salvageable material.

   A. It may be feasible to store pine sawlogs 6-12 months, pine pulpwood 12-18 months, hardwood pulpwood up to 24 months.

   B. Additional logging capacity will be needed to move above normal volumes.

   C. This is the responsibility of the Utilization Committee.

3. Conduct an effective communications program that will keep landowners, companies, harvesting crews, agencies, and the media fully informed of plans, actions, options, and progress with timber salvage.

   A. Targeted communications should focus on landowners and other parties involved in salvage.

   B. Extension agents, Forestry Commission Foresters, Consulting Foresters and industry landowner assistance foresters are a special audience and vehicle to extend information.

   C. News media and trade press should be used as appropriate.

   D. This is the responsibility of the Communications Committee.

4. Temporarily remove all regulatory barriers that impede efforts to salvage as much timber as possible, provided no danger to public safety or environmental hazard is created.

   A. This is the responsibility of the Government Affairs Committee.

5. Establish an information clearing house on timber damage and availability for salvage, and monitor progress with timber recovery.

   A. This is the responsibility of the Statistics and Monitoring Committee.

Business Conduct and Antitrust Compliance

The Council will promote salvage operations with a sense of urgency. The Council urges that in meeting the crisis timetable for timber recovery, all individuals and companies should follow the highest standards of business conduct. All concerned should be reminded that applicable antitrust laws must continue to be complied with.

The Council will not itself discuss, nor encourage others to discuss, any policy or procedure that in fact or perception could be construed to be an effort to fix prices, to allocate territories for standing or salvaged timber or delivered forest products, or agree on levels of production or purchasing quotas. The Council will establish no policies or priorities that favor one landowner or class of landowners or any forest products company over another. Its sole objective will be to facilitate and coordinate the individual efforts of all parties to meet overall salvage objectives. Prices and terms of individual transactions will be determined exclusively by the parties involved.

It shall be required that an attorney familiar with the antitrust law sit in on all Council and Utilization Committee meetings and review agendas and minutes of such meetings.

Environmental Stewardship

In promoting salvage for maximum immediate recovery, the Council does not urge action detrimental to the environment or long term soil productivity. Landowners, foresters, and loggers are working under extremely difficult conditions and pressure to extract damaged trees. The Council will foster a concern about potential damage to forest soils, damage to streams, habitat requirements for wildlife, and protection of endangered species. South Carolina has useful Best Management Practices for forestry operations, and the Council urges they provide the framework for conducting salvage activities.

STATEMENT OF H. M. LUPOLD
BEFORE THE
HOUSE SUBCOMMITTEE ON FORESTS, FAMILY FARMS AND ENERGY
MONCKS CORNER, SC
NOVEMBER 6, 1989

MY NAME IS MAC LUPOLD AND I LIVE IN HOLLY HILL, A RURAL TOWN 30 MILES NORTHWEST OF HERE, WHICH WAS IN THE PATH OF HUGO'S DESTRUCTION. I AM A FOREST PRODUCTS CONSULTANT CURRENTLY EMPLOYED AS THE EXECUTIVE SECRETARY OF THE GOVERNOR'S FOREST DISASTER SALVAGE COUNCIL. OVER THE PAST 30 YEARS I HAVE WORKED WITH PRIVATE LANDOWNERS AS A CONSULTING FORESTER, MANAGED LANDS AND PURCHASED WOOD FOR INDUSTRY (AT ONE TIME THE HOLLY HILL SITE WAS THE SINGLE LARGEST USER OF PINE LOGS IN THE SOUTHEAST), OPERATED FIVE DIFFERENT TYPES OF WOOD MANUFACTURING FACILITIES AND MOST RECENTLY CONSULTING IN THE AREA OF NEW PRODUCT DEVELOPMENT AND MARKETING.

OVER THE PAST FOUR WEEKS THAT THE SALVAGE COUNCIL HAS BEEN OPERATING, NUMEROUS COUNCIL, COMMITTEE AND SALVAGE RELATED MEETINGS HAVE BEEN HELD, INVOLVING THE VERY BEST FORESTRY TALENT SC HAS TO OFFER TO ATTACK THE SALVAGE ISSUE. ATTACHED TO THIS STATEMENT FOR THE COMMITTEE ARE THE COUNCILS WEEKLY SUMMARIES AND TECHNICAL DATA DISTRIBUTED TO DATE.

I AM GOING TO PRESENT A SUMMARY OF THE SIGNIFICANT DAY-TO-DAY SALVAGE ACTIVITIES IN THE CONTEXT OF THE POSITIVE AND NEGATIVE SALVAGE FACTORS WE ARE OBVIOUSLY FORCED TO OPERATE WITHIN.

CURRENTLY WE ARE BLESSED WITH A STRONG PULP AND PAPER MARKET AND A RELATIVELY STRONG SOLID WOOD PRODUCTS DEMAND IN THE SOUTHEAST. THESE WOOD USING FACILITIES HAVE INCREASED MANUFACTURING CAPABILITY, AND MANY FROM VIRGINIA TO FLORIDA TO ALABAMA ARE LOW IN RAW MATERIAL INVENTORY AS THEY BUILD-UP FOR WINTER OPERATIONS. OBVIOUSLY THESE ARE VERY FORTUNATE OPPORTUNITIES FOR THE USE OF THE SALVAGE PINE WHICH REPRESENTS TWO YEARS OF CUTTING ON THE GROUND AND ABOUT 15 YEARS OF HARDWOODS, 64% ON PRIVATE NONINDUSTRIAL, 26% INDUSTRIAL AND 10% GOVERNMENT. THE COUNCIL IS ENCOURAGING SC AND OUT-OF-STATE MILLS TO INCREASE THEIR OPERATING HOURS AND WORK DAYS TO FACILITATE THE INCREASED FLOW OF WOOD. THE ECONOMICAL MOVEMENT AND AVAILABILITY OF CHIP AND LOG RAILROAD CARS, WHICH ARE IN SHORT SUPPLY, ARE MAJOR OBSTACLES TO OVERCOME.

IN SC, CHIPMILLS AND SAWMILLS HAVE THE ABILITY TO PRODUCE CONSIDERABLY MORE PINE AND HARDWOOD CHIPS WITH CHIP CAR SUPPLY THE MAIN PROBLEM. THE ABILITY TO MOVE SHORT PULPWOOD FROM THE WOODS TO WOODYARDS AND AT THE PULP MILLS IS A MAJOR PROBLEM SINCE MOST SHORTWOOD YARDS ARE CLOSED AND THE HANDLING TECHNOLOGY HAS ADAPTED TO LONGWOOD AND CHIPS. THIS MEANS THAT WITHIN DAYS THE WOOD INDUSTRY HAS ATTEMPTED TO LOCATE SHORTWOOD LOGGERS, REBUILT WOODYARDS, SECURE DIFFERENT LOADING EQUIPMENT, ADAPT TREE LENGTH OPERATIONS,

OBTAIN WOODRACKS WHICH ARE IN SURPLUS -- ALL POSITIVE EFFORTS TO MOVE MORE WOOD QUICKLY.

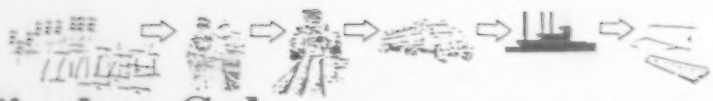
THE 2-1/2 BILLION CUBIC FEET OF WOOD ON THE GROUND, WORTH OVER A BILLION DOLLARS, MORE THAT CAMILLE, FREDERICK, MT ST HELEN'S AND THE YELLOWSTONE FIRES COMBINED, IS A "PERISHABLE PRODUCT" REQUIRING IMMEDIATE SALVAGE. INSECTS AND A FUNGUS IN PINE, BLUESTAIN, WILL BECOME A SERIOUS PROBLEM AS THE BARK LAYER LOOSENS. A WET, COLD CONDITION CAN DELAY LOG QUALITY DETERIORATION. VERY PRELIMINARY SALVAGE REPORTS AFTER SIX WEEKS REVEAL THAT THREE TO FOUR PERCENT HAS ALL READY BEEN SALVAGED, 98% ON PRIVATE LANDS, 1.5% ON INDUSTRY AND .5% ON GOVERNMENT. WOOD BUYERS ARE FACED WITH WET LOGGING CONDITIONS IN THE COASTAL PLAIN, A SHORTAGE OF LOGGERS AND INCREASED LOGGING AND HAULING COST. MILLS ARE FINDING SOME INTERNAL DAMAGE IN THE LOGS AFTER THE LUMBER IS DRIED AND DRESSED.

THE COUNCIL IS SEEKING $30 MILLION FROM FEMA AND/OR THROUGH SPECIAL LEGISLATION FOR STORAGE OF LOGS, CHIPS AND LUMBER AND ALSO FOR LOGGER ASSISATANCE. LOGS SUCCESSFULLY STORED FOR ONE TO TWO YEARS CAN BE USED BY MILLS WHEN NO MORE WOOD IS AVAILABLE IN THE AREA TO KEEP MILLS OPERATING AND PERSONNEL EMPLOYED.

THE US FOREST SERVICE SURVEY OF THE 24 DAMAGED COUNTIES WILL ASSIST IMMENSELY IN KNOWING HOW TO SALVAGE THE HARDWOODS WHICH RIGHT NOW ARE MOSTLY IN A FLOODED CONDITION.

THE SNAPPED-OFF PINE SAWTIMBER PORTION OF THE TREE, WHICH MAY ONLY BE SALVAGED AS PULPWOOD, HAS DRASTICALLY AFFECTED THE MONETARY RETURN TO THE LANDOWNER. INITIAL ESTIMATES OF THE COUNCIL REVEAL AT BEST, A 25% SALVAGE EFFORT BY VOLUME AND 10% BY VALUE. IN SIMPLE TERMS THIS MEANS THAT SOME 30,000 TO 35,000 FOREST LANDOWNERS IN SC WILL LOOSE NEARLY ONE BILLION DOLLARS WORTH OF UNINSURED ASSETS. SPECIAL LEGISLATION FOR REFORESTATION AND A FOREST LAND BANK TYPE PROGRAM WHERE THE LANLOWNER CAN RECOVER AT LEAST 25% OF THE LOSS OVER THE NEXT TEN YEARS IS IMPERATIVE.

THE SALVAGE COUNCIL WILL FACILITATE THE SALVAGE EFFORT, BUT IT WILL BE THOSE MEN AND WOMEN WORKING IN THE WOODS EVERY DAY THAT WILL GET THE JOB DONE!



HUGO Timber Salvage INFORMATION

Governor's Forest Disaster Salvage Council
5300 Broad River Road, PO Box 21707, Columbia, SC 29221, 803-737-8800

FOURTH WEEK'S ACTIVITIES November 3, 1989

HUGO RELIEF OMNIBUS BILL PROPOSED

U. S. Senator's Mitchell (Majority Leader, Democrat) and Dole (Minority Leader, Republican) plan to introduce next week to Congress a bipartisan amendment to the Robert T. Stafford Disaster Relief and Emergency Assistance Act dealing with all types of special relief measures due to damage from hurricane Hugo. This action will be a onetime attempt to cover all governmental assistance relief measures required.

Earlier in the week several US Senators essentially stopped any further action on the casualty tax relief as earlier reported by the S. C. Forestry Association. Measures dealing with special disaster relief have not been very successful through the tax codes. On Wednesday FEMA officials in Charleston advised that "special legislation" may be the only recourse.

Forestry is included in four sections of the proposed Mitchell/Dole bill:

1. **$100 million for Cost Share Assistance in Reforestation.** This is basically the reforestation bill that Senator Thurmond had introduced. The Council is recommending the program cost share be increased from 75% to 90% for 1,000 or less acres planted and from 50% to 65% for over 1,000 acres. This takes into consideration the anticipated increase in site preparation and tree planting costs from the storm damage.

2. **$200 million Forest Land Bank Program for Emergency Relief for Forest and Environmental Sensitive Areas.** With respect to timber, wildlife habitat and watershed protection in the disaster assistance area that suffered losses as a result of Hurricane Hugo, such timberland owners shall be allowed to bid into a program similar to the Conservation Reserve Program. The CRP mechanism represents a means for disaster victims to recover their losses beyond the salvage, and to achieve reforestation of damaged stands. This approach would return about 25% of the timber loss to the forest landowner and insure reforestation of the damaged timberland areas.

3. **$30 million for Salvage Operations** A $10 million grant would be made available for salvage expenses including Council administrative cost, logger assistance and storage funding. $20 million would be a bond issue with JEDA providing loans for logger assistance and storage (wet logs, lumber and chips) loans.

4. **$5.8 million for S. C. Forestry Commission for Additional Fire Suppression Equipment and Programs.**

U. S. HOUSE AGRICULTURE SUBCOMMITTEE HEARING

The U. S. House Subcommittee on Forests, Family Farms and Energy will hold a public hearing on Monday, November 6 at 8:00 AM at the County Office Building on Live Oak Street in Moncks Corner. Individuals will be given five minutes to present their testimony. Written documents can be submitted for the record.

FEMA MEETINGS

A second meeting will be held with FEMA officials on Tuesday, November 7 at 10:00 AM in Room 411, Blatt Building in Columbia. On Wednesday, November 1st proposals were presented to FEMA by the Forestry Commission for additional fire suppression equipment and programs ($5.8 million) by the Salvage Council for special operation projects ($30 million). FEMA's recommendations to these proposals will be the topic of the Columbia meeting on the 7th. Only programs related to public safety and public health fall within the responsibility of FEMA.

UTILIZATION COMMITTEE

64 State Forestry and Logging Associations are being contacted to locate additional loggers. No new developments on S. C. and N. C. truck weight limits.

STATISTICS & MONITORING COMMITTEE

Only 31 companies of the 254 that were sent weekly salvage cutting reports have submitted data. Accurate salvage removal figures will assist the Council in planning the utilization and movement requirements.

INFORMATION COMMITTEE

A Crosstalk Special on "Hurricane Hugo's Effect on South Carolina's Forests" is scheduled on ETV for Sunday, November 19 at 4:00 PM. The location of the studio is 2712 Millwood Avenue in Columbia.

The program will consist of 3 panelists discussing the input of Hugo on the forest and efforts to recover from the loss. Video footage will be interspersed throughout the program. There will be room for 30-40 people in the audience. Interested persons are encouraged to attend.

SPECIAL ATTACHMENTS

For your information attached:

1. Hugo Timber Salvage Classified
2. Railroad Loading or Wet Log Storage Sites

RAILROAD LOADING OR WET LOG STORAGE SITES

CALHOUN COUNTY
Wannamaker Site (NE edge of St. Matthews, SC) 15 [illegible] Has NSR rail spur, city water. Contact: Mr. Luther Banks Scarborough (St. Matthews) 874-3011

Lone Star Site (Lone Star, SC) acreage unknown -- site has a CSX rail spur

CLARENDON COUNTY
Ft Pauvert Site (Manning, SC) 25 acres -- In intersection of US 521 and US 301, only 1 mile to I-95 interchange. CSX RR spur (formerly located but has now removed. Contact: J.C. Pelfrey (Curtis) 473-2105

Fallows Site (Manning, SC) 3 Acres. Has CSX RR spur track, but no switch. Contact Mr. Billy Timmons, Clarendon County Development Board, phone 435-8511

GSA Site (near Rembert, SC) site reportedly large -- consists of a clay borrow pit near Wateree river. Contact: Billy Timmons, phone 435 8811

DARLINGTON COUNTY
Rogers Road: 8" water line (no rail) 20 acres ½ of Darlington. Contact: Tom Cunningham 393 1347 (Darlington)

Timmonsville Road Site: 8" water line (100 acres ½ of Darlington (no rail). Contact: Tom Cunningham 393-1347 (Darlington)

Farmland w/irrigation (at least 40 acres) No rail. Contact: Jimmy Galloway 393 7481 (Darlington)

Bob Pitts Site 80 acres w/rail access (no spur) but will load from track. On County Rd 3124 (just off US 15) Contact: Bob Pitts 332 1511 (Lydia)

Old Carolina Pacific Site 15 acres on McIver Road, just off US 52 between Darlington and Florence. Has rail spur. Contact: Rody Smith, phone 667 3271

Reggie Hubbard Site (Kershaw County) 100 acres on US 1. Contact: Reggie Hubbard, Darlington phone, phone 393-1861

DORCHESTER COUNTY
Beehive Site (St. George, SC) 80 acres -- frontages on US 78 and SR 761, just off I-95 and US 78 interchange. Contact: Mr. Heyward G. Horton, Charleston Trident Chamber 577-2510

Bell Site (Harleyville, SC) 97 acres just off St. 454 on N. side of Harleyville, 1 mile south of I-26. Has NSR RR, city water adjacent to site. Contact: Mr. Heyward G. Horton, Charleston Trident Chamber 577-2510

Fawcett Site (St. George, SC) 283 acres on NSR RR (no spur) has 8" water and sewer lines and on US 78. Contact: Mr. Heyward G. Horton, Charleston Trident Chamber, phone 577-2510

Gavin Site (St. George, SC) 50 acres on NSR RR (no spur) and US 78. Contact: Mr. Heyward G. Horton, Charleston Trident Chamber, phone 577-2510

Jedburg Site (Summerville, SC) 25 acres 4 1/2 miles NW of Summerville at Jedburg. Has 10" water line on NSR RR (no spur). Contact: Mr. Heyward G. Horton, Charleston Trident Chamber, phone 577-2510

Postell Site (Summerville, SC) 74.5 acres 2 miles SW of Summerville (near US 78) Contact: Mr. Heyward G. Horton, Charleston Trident Chamber, phone 577-2510

FAIRFIELD COUNTY
Alston Wood Yard Site (NW of Columbia) 10 acres. 17 miles N. W. of Columbia on E. side, approx. 1 mi. W. of SC 215 on Broad River and NSR RR, old spur here. Contact Ms. Ann Pope (Winnsboro) Office: 635-4731 Home 635-2080 or 635-1415

FAIRFIELD COUNTY CONT'D

Richtex Site (NW of Columbia) 170 acres on NSR RR, 16 mi NW of Columbia - 8" water main - old brick mfg plant of Richtex Brick Co Contact: Mr Robert Scott, Greater Columbia Chamber of Commerce, 733-1110

FLORENCE COUNTY

Florence Airport Industrial Area Site 30 - 50 acres 1 mile east of Florence, 1 mile south of US 52/301 - Public water available, has CSX 48 spur - Contact: Mr John Swope, Florence County Economic Dev. Comm (Florence) 664-2866

GEORGETOWN COUNTY

Georgetown Textiles Site 65 acres near Jamestown, SC, 2 miles N of Jamestown along east side of SC 51 has CSX RR spur, complete with switch still in place Contact: Sorhan Boynton, Keenan Company (Columbia) 254-2300

Georgetown County Site 700 acres immediately adjacent and parallel to main line of CSX between Andrews and Georgetown, water from existing line in Andrews or from Georgetown County, power available, Sampit Lumber Mill adjacent to site Contact: Jack M Kontnire (Georgetown) 546-5959

ORANGEBURG COUNTY

CSX SITE (Orangeburg, SC) 20 acres S.E. city - has rail spur, all utilities Contact: Jim Wallace, CSX System, Columbia 732-2560

Haff Site (Branchville, SC) 36 acres - sawmill was once located here, 6" water line, NSR RR frontage (no spur) Contact: E. F. Haff (Orangeburg) 534-3609

Hoechst Celanese Site (Orangeburg, SC) 69 acres, 41/2 miles S of city limits NSR RR (no spur) 21" city water line along US 21 Contact: Cater & Associates (Charlotte, N C) 704-372-7430

LANCASTER COUNTY

Taylor Site (Heath Springs, SC) 50 acres 1/2 mile N of city limits - old sawmill site, city water, sewer and natural gas - on NSR RR Contact: Ms Ann Taylor Office: 547-1005 Home: 273-5046

CSX Van Wyck Site (Van Wyck, SC) 400 acres just NE of Van Wyck - On CSX RR, but spur has been removed Contact: Henry Massey (Realtor) Hilton Head Island Office: 842-3111 Home: 842-6777

KERSHAW COUNTY

Clyburn Site (Kershaw vicinity) 200 acres E side of US 521 adjacent to Kershaw Airport - 8" city water line Contact: Bill Clyburn, Mayor, Town of Kershaw, 475-6045

Westville Lumber Yard site (Westville, SC) 200 acres on E side of US 521 Has NSW spur but NSR has recently deactivated this line between the towns of Kershaw and Westville Contact: Walter Brown, NSR, Columbia

LEE COUNTY

40 acres plus across road from SR 341 (just off I 20) has water Contact: James Alexander, Alex & Beatty, phone 428-5151

60 acres across from new C.I. prison on SR 341 city water Contact: Graham Drayton, phone 484-5407

RICHLAND COUNTY

Brockington Site (NW of Columbia) 517 acres 15 miles NW of Columbia on Broad River and NSR RR (no spur) Contact: Mr Robert Scott, Greater Columbia Chamber of Commerce, phone 733-1110

Montgomery Site (NW of Columbia) 650 acres 11/2 mile W of SC 215 on Broad River and NSR RR (no spur) Contact: Mr Henry Elias, Columbia, phone 772-7327

HUGO TIMBER SALVAGE CLASSIFIEDS

Governor's Forest Disaster Salvage Council
5500 Broad River Road, PO Box 21707, Columbia, S.C. 29221, 803-737-8800

WANT WOOD

Sunrise Sawmill (704) 274-7266 Asheville, NC

Canal Wood Re-opened year US 52 N Kingstree, SC

Arthur Howard (912) 764-5407 Claude Howard Lumber Co., Statesboro, Ga.

Stilley Plywood Co. 248-4241 Conway, SC Needs poplar, gum & etc.

William Shepard Lumber Co. Hwy 80E, Brooklet, Ga. (9 mi from Statesboro) (912)842-2190 Allan Thompson - can use 3,000 cords/cu chip'n saw

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Georgia Pacific (904) 325-7582 Palaka, Florida - pine ply logs 500 MBF/cu

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Clarey Lumber Co. (919) 537-7558 Roanoke Rapids, NC-Harvey Runnaly Mixed Hardwood Sawtimber by rail

LOGGERS AVAILABLE

Frank Jones, Forest Technology P O Box 953, Marion, SC - Office 423-3340 Home 423-2974

Joe Guyton, Broken Bow, Oklahoma (405)584-3205 - Portable sawmill and logging equipment

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Richard Sparks, Bakersville, NC (704) 688-3893, short log, upland logger

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Gordon Sheppard (619) 741-8305 S. California - Escondido, Ca.- Will move Equipment to SC - Good Chain saw crews

CHIP MILL FOR SALE

Jimmy Smith (Father: Marvin) Smith Logging, Andrews, SC (Mill at Gresham) 264-5341 or 264-8732

EXPORTS

B. C. Services (Sam Cohen) Has log market to China (215) 533-8003 Pa. (407) 967-8669 Florida

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Mr. Rodolfo Padovani - Timber Logs - Via A De Gasperi 55, 80133 Naples TELEX: 710135 Rodolfi FAX: 5519008

Lognoservice S.r.l, Via Orsa Minore, 62, 95040 Catania S.C.G, Italy Tel: 095/394 248 Fax 095/394 280 - Products Requested: Logs for processing into sawn lumber and/or for being chopped up into chips - Quote requested: CIF Italian Port

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Sangiorgi Lognami S.p.A - Strada Statale Selice 54/A - 40026 Imola BO - Italy - Contact: Luigi Negrini - Tel: 0542-640204 Fax: 0542-640014 - Logs for processing into sawn lumber and/or for being chopped up into chips. Quote requested: CIF Italian Port

TRADING COMPANIES

Mr. Craig Vartorella, International Marketing & Advertising, P O Box 1376 Camden, SC 29020 - Inquiries from Egypt - Rough, not planed - Kiln-dried Grade: 1 or 2 common or select - 2X4 or 2X6, full-to-size when received

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SEND IN YOUR NEEDS FOR LISTING NEXT WEEK!

HUGO Timber Salvage INFORMATION

Governor's Forest Disaster Salvage Council
5500 Broad River Road, PO Box 21707, Columbia, SC 29221, 803-737-8800

THIRD WEEK'S ACTIVITIES

October 27, 1989

COUNCIL MET THURSDAY

The Salvage Council held its second meeting on Thursday, October 26. Refer to committee headings below for summary of current activities. An update packet will be sent to each legislator on the Council's activities and weekly thereafter. A salvage goal is being studied by the Utilization Committee. The Council endorsed the immediate need for a resurvey of the 24 counties by the US Forest Service to determine the extent of damage and for the estimated $730,000 cost be allocated promptly by the Congress. Contacts were made during the meeting with ETV to produce several educational programs.

Don Eng, USFS Supervisor, provided an update on the timber sale procedures and status. As of noon, 10-26, 20 sales on 40 million BF of pine sawtimber resulted in 5 million BF sold on sealed bids (3), 8 million BF negotiated (2), and 33 million BF (725) had no bids (15). Reasons for no bids were short removal time, stumpage price too high (about $66 MBF), risk in wood quality (internal defects in older growth), logging restrictions and several contract requirements. Eng stated that one of the nation's most productive National Forests has 70% of its mature pine trees on the ground. No live trees over a 45 degree angle to the ground will be cut. Since the Council's involvement in the USFS salvage effort, several positive actions have been taken by the USFS at the national, regional and state levels to lessen the impact on the local forest economy by considering 40-50 million BF of wet log storage on the forest, additional wet storage by buyers at their mills, whole tree chipper operations with chip piles left in storage for later removal and the use of loggers from other national forest areas.

Council member comments ranged from hold government sales off market for 60 days to the logging restrictions and ground conditions are such that most loggers and buyers will continue to stay on private and industrial lands. The role of the Council is to accomplish the maximum timber salvage possible for South Carolina and to offer the broadest possible alternatives to utilize, store, transport and market the wood fiber in and outside of the state. Since the Council felt that the USFS was attempting to follow the suggestions and purpose of the Council, no formal position was taken.

OUT-OF-STATE PULP AND PAPER WOOD FIBER REQUESTS

Eighteen pulp and paper mills in the southeast have requested chips, shortwood and longwood, totaling 13,000 cords of pine and 11,000 cords of hardwood per week. A summary of these mills is attached for all potential sellers of these products in SC.

AERIAL PHOTO'S OF TIMBER DAMAGE

Aerial photographs of the approximately ten moderately and severely damaged counties can be ordered from: John Taylor, USFS, Atlanta (404)347-2989

SC FORESTRY ASSOCIATION ANNUAL MEETING

The SCFA will meet November 8-9 at the Omni in Charleston with a tour of the Francis Marion on the 8th and presentation on the salvage effort on the 9th.

UTILIZATION COMMITTEE MET WEDNESDAY

Transportation - SC allows out-of-state loggers to work in SC without fuel stickers or registration/license, SC tandem weight request to SCHD to change to 43,000 - 45,000#; NC weight increase, fuel sticker and license pending NC Governor's approval, GA tougher situation (need your political influence in GA); surplus lumber flats (must stake) and wood racks, log cars available in West for lease, RR says produce the markets - they can get the log cars, Southern has 100 gondolas; SCNG has truck companies to move chips (low cube); Santee Cooper 45-50 aluminum coal cars, use free for next 15-20 weeks, 25-30 ton capacity, roll dumped.

Out-of-State Movement - 18 of 40 pulp and paper mills need 13,000 cords of pine and 11,000 cords of hardwood per week of chips, shortwood and pulpwood, also 800 MBF of pine and 300 MBF hardwood logs week; several wood using mills in VA, NC, GA, FL and AL low on inventory - Hugo main problem, economical delivery; opportunities for export of logs available, greatest opportunity for export pine chips from Savannah.

Storage - To determine interest in potential loans for log storage, funds may be allocated to improving logging capability, FEMA grant money could be used first for log storage/logging capacity and later a second time for reforestation cost sharing.

Utilization - Restriction on hunting not recommended, to emphasize hunter logger safety, need more coastal plain loggers, hardwood utilization not operable now due to weather, pine sawtimber taking care of itself, pine pulpwood chip volume major task, compression breaks in lumber very evident at sawmills.

LET'S LIST YOUR SALVAGE NEEDS!

If you have a timber salvage need, capability or problem, then contact the Council at 737-8800 to have that requirement distributed throughout the forest community.

INFORMATION COMMITTEE MET WEDNESDAY

Clemson Extension Service will provide full-time writer for Council, ETV coordination meeting on 10/27.

THIS MAILING SENT TO OVER 500 WOOD INTERESTS

Distribution: Sawmills, veneer plywood plants, pulp and paper procurement, wood buyers and dealers, loggers, consulting foresters, all legislators and some timber landowners. If you know of someone left off, please advise.

STATISTICS AND MONITORING COMMITTEE

Basic Information Forms and Timber Salvage Forms sent out last week are beginning to flow. If you haven't responded, please attempt to get your forms in the mail. Weekly reports on your volumes handled are very important in recording the success of this operation.

DATA SHEETS ATTACHED

As data becomes available, it will be compiled as below under various subject categories and distributed. Advise if you need one:

1. Transportation Facts - RR contacts, activities, sidings, log cars, barges.
2. List of Portable Sawmill Equipment Manufacturers
3. List of Out-of-State Pulp and Paper Mill Wood Fiber Requirements
4. Export Facts - Trading companies, Products Wanted
5. Wood Buyers and Sellers Listing
6. USFS Log Storage Feasibility Study for Francis Marion
7. Loggers Available or Needed

HUGO Timber Salvage INFORMATION

Governor's Forest Disaster Salvage Council
5500 Broad River Road, PO Box 21707, Columbia, SC 29221, 803-737-8800

SECOND WEEK'S ACTIVITIES October 20, 1989

EXECUTIVE COMMITTEE MET TUESDAY

The Council's Executive Committee met on Tuesday, 10 17 at the SCFA office. Don Eng, USFS Supervisor, presented timber sale procedures for the Frances Marion and discussed several timber salvage alternatives suggested by Committee members. Concerns from the Governor's office, members of Congress, private landowners, consulting foresters and others on the economic affect the USFS sales would have on stumpage prices, availability of loggers and the local wood processing capacity necessitated Eng's presentation and Councils involvement. Facts pertaining to the current USFS sale procedures are attached. The current and planned activities of each Standing Committee were reviewed in detail. Other areas discussed were the committee's response to the USFS sales procedures, the proposed forest survey, specific committee tasks and the SCFA Annual Meeting programs on the salvage effort. Since the tasks for the Environmental (Regulations) Committee have been primarily technical, capable of being handled by the other Standing Committees the committee's original regulatory functions are now part of the activated, Government Affairs Committee, chaired by Bob Scott. The four legislative members of the Council are members of the Government Affairs Committee.

MEETINGS WEEK OF OCTOBER 23RD

Wednesday, Oct. 25	10:00 AM	Utilization Committee
	1:30 AM	Information Committee
Thursday, Oct. 26	9:30 AM	Salvage Council
	12:30 AM	Government Affairs Committee

All meetings will be in Room 411 of the Blatt Building. As of 10 20 these are the correct meeting times.

COMMITTEE UPDATE

UTILIZATION Contacted 38 pulp and paper mills and 55 sawmills out-of-state by phone or letter to use Hugo damaged wood, two companies have diverted over 200 log cars and 65 new chip cars to salvage effort, railroad CEO's contacted by Governor, 49 pulp and paper CEO's contacted by Governor, 65% sidings set up on team basis, 140 wood processors, consultants and timber landowners sent "Log Storage Tips" (13 examples), Southern has 300 woodrack cars available, Stone releasing 250 woodrack cars from use at Panama City, gondolas being brought into the area for log movement.

INFORMATION Clemson Extension Service will provide full time writer for Councils effort, more TV and video use planned, ETV to assist, information identified by Executive Committee as critical area to inform public and our forest community.

STATISTICS & MONITORING: Over 230 forms sent to wood processors (S. C., N. C. and Georgia) to determine production capacity, wet storage plans and weekly consumption of salvaged wood, continuing to work with USFS on Hugo damage area resurvey.

ENERGY RELATED PROJECTS

The Governor's office has funds available for any project that can be tied to energy conservation. They have suggested that 2 or 3 whole tree chippers might be purchased and somehow linked to energy. Any ideas or applications? Call Ralph Strong at 734-0336.

COORDINATION WITH USFS ON FRANCES MARION TIMBER SALES

With approval of the Executive Committee, Council Chairman Scott Wallinger has contacted George Leonard, Associate Chief of the USFS, and discussed the economic impact that a large volume of pine sawtimber might place on the existing Hugo area manufacturing capacity and availability of loggers over the next six to eight months. The USFS was urged to release factual data on the current sales procedures to counteract the various rumors. Wallinger encouraged the USFS to consider these alternatives: minimize the short-term volume available to wood using facilities, install major wet log storage sites throughout the forest for mill consumption in 1 to 2 years, secure loggers from outside the Hugo damaged area and that the Council will assist the USFS in every way possible to secure storage funds, environmental compliance, loggers, wet storage technology, etc.

The timber sale bids opened Friday 10 17 at Witherbee: first six of eight sales had three with no bids (3.1 to 3.7 MMBF), the three that sold (1.8 to 2.8 MMBF) were $1.03, 10.45 and 5.79 over the minimum, two sales only one bid each, one sale with two bids.

The USFS has been requested to respond to Wallingers suggestions prior to the Council meeting planned for Thursday 10 26. The Council will review the issues as a scheduled part of the agenda on 10 26 and will make a recommendation to the Governor at that time.

RR LOADING AND WET STORAGE SITES

The State Development Board is locating sites along the railroads for loading and processing forest products, also improved industrial sites, rock quarries, abandoned roads and airports, etc. near deep wells, lakes or ponds for wet log storage Contact David Brooker at 922-6684.

"HUGO TIMBER SALVAGE HAUL" BUMPER STICKERS

CALL SCFA, 798-4170 IF YOU NEED BUMPER STICKERS FOR LOG TRUCKS

Governor's Forest Disaster Salvage Council

5500 Broad River Road, PO Box 21707, Columbia SC 29221

CHAIRMAN
R.S. Wellinger
Summerville
803-871-5000

EXECUTIVE SECRETARY
H.M. Lupold
Columbia 803-737-8800
Fax 803-798-8097
Holly Hill 803-496-3388
Fax 803-496-5091

MEMBERS
Hon. John Drummond
Greenwood

Hon. John E. Courson
Columbia

Hon. Thomas A. Limehouse
Summerville

Hon. Woodrow M. McKay
Timmonsville

Com. D. Leslie Tindal
Columbia

G. Bryan Patrick, Jr.
Columbia

Ralph Simeg
Columbia

Robert J. Gould
Columbia

Robert R. Scott
Columbia

Donald W. Fay
Columbia

Donald L. Ham
Clemson

Dwight L. Stewart, Jr.
Mullins

Mitchell S. Scott
Allendale

James H. Hargrove
Aiken

William C. Sullivan
Georgetown

Edward C. Lee
Orangeburg

October 16, 1989

TO: Sawmills, Pulp Mill Procurement, Consulting Foresters, USFS, Wood Dealers, Industry and Private Landowners

SUBJECT: Log Storage Technical Data

Hugo's destructive path through SC has left 2½ billion cubic feet of pine and hardwood on the ground worth $1.04 billion as estimated by the SC Forestry Commission.

Summary of timber damage on 4.4 million acres in 24 counties:

	Damage Volume	Years Annual Cut	% Vol by CF	Merchantable Value	% Value
Pine sawtimber	3,305 MMBF	2.4	20%	$581,603,692	61%
Pine pulpwood	4,249 MCDS	1.5	13	63,736,317	7
Hardwood sawtimber	3,457 MMBF	16	20	231,591,882	24
Hardwood pulpwood	16,001 MCDS	14	47	80,003,672	8

Obviously, the high pine sawtimber value and susceptibly to blue stain and insect attack, dictates it's utilization be a major emphasis. The attached data on wet log storage is provided to encourage you to seriously consider long term (1-3 years), sprinkled systems. Current data is limited and sometimes outdated, but as more usable information is obtained, it will be forwarded to you on both pine and hardwoods.

The Governor's office, as a recommendation of the Utilization Com., is requesting $30 million for working capital loans for wet log storage. Just as soon as the program is approved and the details are defined, you will be advised.

Later this week the Statistical & Monitoring Com. will mail a form to determine your increased salvage production, wet log storage and extra chipping capacity. Each mill will be asked to report salvage volume received weekly and collectively this data will track the salvage progress.

The attached letter from Andy Yasinsac with DHEC outlines initial wet log storage wastewater permitting procedures. A conference will be held 10/17 with DHEC to extend the time frames and to broaden the procedures.

Thanks you for your support in the timber salvage effort. Call if you have any utilization or storage ideas and or problem areas the Council needs to concentrate on.

H. M. Lupold, Exec. Sec., Salvage Council

Log Storage TIPS

Governor's Forest Disaster Salvage Council
5500 Broad River Road, PO Box 21707, Columbia, S.C. 29221, 803-737-8800

NO. 1 October 17, 1989

WET LOG STORAGE ASSISTANCE - Joe Saucier (404-546-2441) with the USFS in Athens, GA, has offered the utilization lab's assistance in designing and monitoring wet log storage sites.

SUGGESTIONS FOR SALVAGE OF HURRICANE DOWN-DAMAGED TIMBER - Lonnie Williams (404-864-3991), 1989. Roy Smith, supervisor, Stone Range District, Ozarks National Forest, telephone (501) 968-5241, was present for salvage operations after Hurricane Frederick.

Water storage - Storage of logs in ponds or other continuous water areas are good options for preventing deterioration by insects and fungi (mold, mold, and blue stain or sapstain). Logs do not have to be debarked and can be kept in good condition for 6 to 12 months, if water spray is continuously applied that all portions of logs remain wetted. It is expensive to prepare "leak-tight" to recirculate water and to use sun pipes, sprinklers, and pumps.

Chemical treatments of logs with bark - A combination of insecticides and fungicides could be sprayed on decked logs. Difficulties include: getting thorough coverage of all surfaces, risk of environmental contamination especially of water supplies, and limited penetration of wood (log end sealers would probably have to be used to prevent bluestain. One combination widely used on sawn lumber is Timbertreat® + WT plus NP-1 fungicide. Timbertreat contains Dursban® (chlorpyrifos) insecticide which is very toxic to fish (3 ppb toxic threshold to bluegills) (available from Koppers company, Inc., St. Louis, Missouri, 314-772-2100). There are other fungicides and insecticides such as lindane and permethrin. All of these treatments are designed to give temporary protection and do not penetrate wood very deeply.

Borate treatments of logs or lumber lacking bark - Other than the need to debark logs, I believe that borates are suited for treatment of salvage logs. The borate deeply penetrates unseasoned wood by diffusion which may result in acceptable treatment of lumber and other products sawn from treated salvage logs. I have treated 4- to 8-inch diameter freshly debarked southern pine poles by brushing a slurry of borate on them. After 4 weeks storage wrapped in plastic, the poles were completely penetrated by boron at a level of 0.25 percent boric acid equivalent (BAE) or higher as indicated by bright red reaction in color tests.

REPORT ON WATER STORAGE OF BEETLE-KILLED LOGS - Forest Service, Cooperative Forestry, 09/12/85 - - Westbrook, Milner, Taylor, Cobb. Report on the feasibility of water storage of logs from timber attacked by the Southern Pine Beetle.

Walker Brothers currently has 3 to 4 MMBF of logs under water. This is about the amount they normally carry into the winter to allow for reduced logging.

Under present merchantability standards the logs going into the storage piles are very high quality. Considering the fact that the logs are all beetle-killed timber there is a remarkable lack of blue stain. Lumber produced from these logs has only 15-18 percent of the pieces showing blue stain. Walker Brothers has had no complaints from mill customers with respect to lumber quality.

Conclusions: Group considered both pond storage and spray storage. Spraying or sprinkling logs was preferred. Ponds have more demanding site requirements than do sprinkle yards. Less lead time is required to construct a sprinkling yard than is needed to dig a pond. Ponding requires a maximum initial investment and the pond must be of a size to hold a maximum fixed volume of logs. Sprinkler yards would require a minimum investment in a well and construction of a small holding pond. Sprinkler yards offer greater ease of loading and unloading. Conventional log hauling equipment can be used in a sprinkler yard. Ponds would require the building of a jack ladder or some other method to remove logs from the pond. Both systems could be operated with effluent outflow. Neither sprinkler yards or ponds should pose a threat, as a source of beetles, to the area around the storage facility. With both types of storage the southern pine beetles infesting logs going in to storage would not survive.

A survey of the literature indicates successful storage time of up to two years for southern pine logs. Personnel at Walker Brothers Lumber Co. report actual mill experience in East Texas in which logs were successfully stored for six years under a sprinkler system.

BIODEGRADABILITY OF SAPWOOD FROM SOUTHERN PINE LOGS STORED UNDER A CONTINUOUS WATER SPRAY. De Groot, Scheld. (1970) The results from all of these tests indicate that lumber from southern pine logs stored under water sprinkling systems will be no more susceptible to decay than is lumber cut soon after trees are felled.

WATER SPRAY SCHEDULES FOR SAFE STORAGE OF SOUTHERN PINE LOGS. De Groot. Small decks of southern pine logs were stored under either continuous or intermittent water sprays delivering 0.5 inches of water per hour of spray time during the summers of 1971, 1972, and 1973. Results of these observations suggest that intermittent spray programs in which the period without spray does not exceed 30 minutes should prevent development of blue stain and exclude most but not all Ambrosia beetles from the sapwood. Continuous day-to-day operation of the spray cycle is important. These results demonstrate that emergency storage yards can be effectively established with minimum water resource.

Pine logs stored under intermittent water sprays which adequately cover the entire pile can be effectively protected from deterioration if the spray program is continued each and every day of storage. Intermittent spray programs in which the period without spray does not exceed 30 minutes should adequately protect pine logs form attack by Ambrosia beetles.

Interruptions of several days in the intermittent spray program will not permit the establishment of blue stain but will permit attack of the sapwood by Ambrosia beetles.

WATER SPRAY STORAGE OF SOUTHERN PINE PULPWOOD. Volkman. Three thousand cords of southern pine pulpwood were stored under water sprays at Camden, Arkansas, beginning July 1984. Mill and laboratory evaluations at intervals showed no appreciable losses in wood density, pulp yield, by-products yields, or pulp strength from wood stored under sprays for up to twelve months. No typical wood decay fungi could be isolated on the stored wood. However, ray and resin-canal tissues were destroyed in the sapwood, presumably by bacteria. Spray storage has generated considerable interest as a method to improve overall quality of wood used by International Paper Company mills in the South.

TOUGHNESS OF SAPWOOD IN WATER-SPRAYED SOUTHERN PINE LOGS. Scheib, DeGroot. 1990. Tests for strength and cuprammonium viscosities on sulfate pulp from southern pine logs have shown that water spray apparently protects wood from cellulose deterioration for up to 9 months (1). In another study, pulp strength was unharmed when southern pine was stored under water spray for 12 months (2). Thus, evidence from other work suggests that the cellulose component of sapwood in logs stored under water spray is well protected.

SHARE YOUR WET LOG STORAGE IDEAS AND DESIGN. Call or write your ideas to the Council and we will include them in the next "LOG STORAGE TIPS" distribution.

SAPWOOD LOG STORAGE SPRINKLER SYSTEM. Recycled water spray system with clay pit dug out, 50 hp pump, 850 gpm, 200 ft. head, 8" header to 2" line to 1" line (all metal) to 1" black plastic pipe over logs, intake screen around end of 50 ft. suction hose with gate valve, back up well with 5 hp pump, spray from 3 3/4" holes drilled in black plastic pipe 2-3 holes every 1-½ feet at different angles, when clogged plow + drill new holes for maintenance, use boots with spikes to walk on logs, with large pump more than 4 returned when wide open, once start spraying never quit, rain will do the job + keep spraying, even in ice conditions continue to run. System installed in Alabama from Friday to Monday, use ball cutoff valve on distribution lines, could store 2 million board feet.

SC MILL EXPERIENCE. Water sprinkler spray on 7,000 to 8,000 cords small tree-length pine logs and pulpwood, for 10 months, 50 hp pump, PVC piping due to large water volume, used sprinklers on top and into ends, pumped from pond, plus 6" well to supplement, make pile as high as possible. Used for 2 years. 30-90 cords.

Gulf Lumber, Mobile, AL. Call Fred or Billy Stimpson at [illegible]

Sprinkled log storage area for two years with good success, very little blowdown, some D-grade logs, used rubber and PVC piping, make sure wind shows not on storage pile, cost $25 MBF Doyle scale.

Log storage facility probably feasible at a sawmill or pulpmill location. Off site storage may not be justified, unless a hard, stable base is available (old airport runway, abandoned road on deep sand via Florida), good alternative water sources available and loader that can stack 20 ft. - 40 ft. high.

LEAF RIVER LUMBER, New Augusta, MS. Logs sprayed with water for two years had no bluestain. Logs stored for three years resulted in some rot. Make piles as high as possible. Cost $5-10/MBF.

NEED FULL REPORT COPIES? If you would like the full report of any of these outlines above, contact the council.

TECHNICAL DATA ATTACHED. Wet Storage of Pulpwood, 1965, APA. Preventing Degrade in Stored Southern Logs, 1978, USFS. Excerpts Utilization Southern Pine, Koch, USFS.

HUGO Timber Salvage INFORMATION

Governor's Forest Disaster Salvage Council
5500 Broad River Road, PO Box 21707, Columbia, SC 29221, 803-737-8800

FIRST WEEK'S ACTIVITIES

October 13, 1989

UTILIZATION COMMITTEE MET TUESDAY

Highlights of Utilization Subcommittees:

TRANSPORTATION: Southern and CSX reduced rates for pulpwood rack cars, rack cars in surplus, chip cars scarce (greatest need), need demurrage relief, railroad to advise equipment availability, NC increased truck weight to 90,000#, SC also, GA being contacted, SCFA will have bumper stickers for log and residue trucks ("HUGO TIMBER SALVAGE HAUL"), to look at barge capability.

STORAGE: To survey intentions of industry and project capacity of industry both dry and wet storage, technical literature on wet storage to be distributed by 10 Jn to consultants, sawmills and pulp companies, request $30 million (increased from $20 to $30 million by Governor's office) of FEMA funds for wet storage sites for small businesses and landowner cooperatives, recommend Francis Marion National Forest consider major emphasis on long term wet storage.

OUT-OF-STATE: Pulp and sawmill manufacturing capacity in southeast that can use South Carolina's damaged wood favorable, chipping capacity can be greatly increased with 2nd, 3rd shifts, 7-day operations, economical movement of chips from chipping sites to pulp mills major problem, chip cars in short supply, to contact pulp mills in southeast for commitments.

UTILIZATION: Publications on logging safety, coordinate Wildlife Department hunter safety and use of rifles, refine list of wood users for mailings, discourage use of logging in live stands, fire concerns as tops dry out.

Next Utilization Committee Meeting 9:00, October 25th.

INFORMATION COMMITTEE MET THURSDAY

Articles and or publications to be prepared: Council formation, Utilization and Information Committee meetings, need for landowners to contact professional forester for salvage advice, magnitude of disaster, contact magazines for features, conversion relationships for landowners (tons, cords, and MBF), general and logging safety, fire buildup potential, hold up sales of green wood stands, weight relations as logs dry out, trucking safety, utilize SCFC State Fair exhibit on Hugo around the state and duplicate.

Next Information Committee Meeting 1:00 AM, October 25th.

STATISTICAL AND MONITORING COMMITTEE MET TODAY

The initial meeting of the Salvage Council's Statistics and Monitoring Committee was held on Friday, October 13, 1989. Twelve of the thirteen members were represented, and efforts centered around the development of applicable salvage and field comment reporting formats. The committee is targeting October 20th to have salvage forms prepared, reviewed by industry representatives, and mailed to salvage wood companies.

WET LOG STORAGE ASSISTANCE

Joe Saucier (404-546-2441) with the USFS in Athens, GA, has offered the utilization lab's assistance in designing and monitoring wet log storage sites. Initial technical data to be distributed to sawmills, pulp companies and consultants by 10/16. Current data illustrates that if properly designed and kept continuously wet, log piles will last at least two years for both pine and hardwood. One test in Texas was successful for six years.

DHEC BRIEFED ON WET LOG STORAGE NEEDS

Industrial wastewater section has allowed short-term storage for six months with no permitting. Council to work with Andy Yasinsac (803-734-5247) with DHEC on permit requirements for log storage greater than six months. Both long and short term storage requires written notification.

TIMBER DAMAGE CONVERTED TO CUBIC FEET

The total volume damaged by Hurricane Hugo for pine and hardwood, sawtimber and pulpwood is 2,530,655 CF or simply stated - 2½ billion cubic feet. This is NINE times Camille in 1969.

JACK GOULD AND SCOTT WALLINGER ATTEND CONGRESSIONAL BRIEFING

On Tuesday, October 10, 1989, Acting State Forester Jack Gould and Governor's Salvage Council Chairman, Scott Wallinger, participated in a cooperative HUGO briefing at the request of the U. S. Forest Service. Presentations were made by Wallinger and Gould before subcommittees of the U. S. House of Representatives and the U. S. Senate, and addressed HUGO's damage, salvage efforts, wildfire implications, and assistance needs of the state's woodland owners that experienced timber damage. Excellent contacts were made, particularly during the House presentation which was attended by Congressman Spratt (SC) and Volkmer (MO).

EXECUTIVE COMMITTEE TO MEET TUESDAY, OCTOBER 17TH

The Executive Committee will meet at the S. C. Forestry Association Office on Tuesday, October 17 at 10:00 AM.

CLASSIFIED ADS - MATCHING WANTS AND NEEDS

Council will publish once or twice weekly a listing of wants and needs of loggers, landowners, consultants, wood buyers, trading companies, equipment dealers, etc. Mailing this list to the various salvage utilization groups should match positive action for the many questions being asked the Forestry Commission.

WEEKLY COUNCIL ACTIVITY SUMMARY

This summary will be prepared and distributed each Friday to the Council. Committee Chairmen need to summarize weekly the committee's key activities, type in this format for cut and paste editing and mail by Thursday for preparation Friday.

PROPOSED CONGRESSIONAL BILLS

Council assisting in preparation of Sen. Thurmond's bill on cost sharing for reforestation and Sen. Hollings and Cong. Spratt's bill on a special casualty tax loss provision for Hugo damaged timber.

Statement
By
The South Carolina Forestry Association
on Hugo Forest Disaster Assistance
Before The Subcommittee on Forests and Family Farms of the
US House of Representatives Agriculture Committee

November 6, 1989
Moncks Corner, SC

Chairman Volkmer, and members of the Forestry Subcommittee, my name is Bill Sullivan. I am manager of the Eastern Region Land and Timber Group with International Paper of Georgetown, SC. I appear before this committee, however, as chairman of the South Carolina Forestry Association.

The Forestry Association is a private conservation organization with a membership of 1,800, composed of private and industrial landowners, lumber mills, foresters, and others who share a common interest in the forest resource. Forestry is the third largest industry in our state.

May I first welcome you to the Palmetto State and thank you for holding this public hearing at a most critical time in the history of our state. Our thanks and appreciation are also extended to Congressman Robin Tallon and other members of the Congressional delegation for inviting this committee to South Carolina.

Hugo is the single worst natural disaster ever to hit the east coast, and perhaps in terms of economic loss, the worst natural disaster ever to strike the US. By comparison, Hugo was nine times as damaging to our timberlands than was Hurricane Camille which struck the Mississippi Gulf Coast in 1969. Hugo's damage to South Carolina timber was more than three times as great as that caused when Mount Saint Helens errupted in 1980 in Washington State. A final note, the timber damage represents three times the annual consumption of our state's forest products industry.

These comparisons are mentioned only to illustrate that we are dealing with an unprecedented challenge that calls for prompt and decisive action from Congress. It is obvious that current federal laws provide very little assistance to tree farmers who suffered a devastating loss and need immediate relief. Here are some rather startling figures compiled by the state Forestry Commission. The Hurricane affected 36 percent of our commercial forest or 4.4 million acres of timberland. It downed 2 1/2 billion cubic feet valued at $1.04 billion.

Because of limited time, I will briefly address four areas of need by farmers and woodland owners as a result of Hurricane Hugo's devastation to their timber.

We commend Congressman Robin Tallon, and other members of the delegation for introducing the Hugo Forestry Restoration Act. The bill is similar to the federal Forestry Incentives Program (FIP) which has successfully provided, over the years, cost share assistance to landowners for site preparation and tree planting.

SCFA supports the Forestry Restoration Act. However, we recommend the cost share assistance be increased from 75 to 90 percent for 1,000 acres or less, and from 50 to 65 percent for 1,000 acres or more. The increase can be justified on the basis that site preparation and tree planting expenses will be

as much as 2 1/2 times the normal amount due to excess debris (fallen timber) and the difficulty of using mechanized site preparation and tree planting equipment.

For example, under normal conditions site preparation/tree planting cost is approximately $100 per acre. Under the Forestry Incentives Program, private landowners would pay $50, matched by $50 cost share. In the disaster area, the cost could reach $250 per acre, resulting in an out-of-pocket expense to the landowner of $65, or $15 more than under normal silvicultural conditions.

SCFA also supports the Hurricane Hugo Tax Assistance Act sponsored in the US House by Representative John Spratt and Senator Ernest Hollings in the Senate. The bill will allow tree farmers to deduct their total losses in determining the investment basis for casualty loss. The problem for the family tree farm is that many of the present owners have little or no basis. Under the present law if your timber has no basis you will not have a deductable loss. We strongly support legislation which would allow a special casualty loss for the actual damage to the landowner without regard to basis.

We are aware there is opposition in Congress toward altering the tax code to provide tax relief to disaster victims, but surely an exception could be made in the case of Hugo which is the greatest timber disaster in US history.

In addition to the Forestry Restoration Act, we strongly recommend a plan similar in concept to the Conservation Reserve Program (CRP) to maintain our forest and environmentally sensitive areas. With respect to timber, wildlife habitat, and watersbed protection in the disaster assistance area that suffered losses as a result of Hurricane Hugo, such private non-industrial landowners should be allowed to bid into a program similar to CRP.

Since CRP has a successful track record, and the mechanism is already in place, we propose to use the existing ASCS framework to satisfy the immediate financial needs of tree farmers, many of whom have only received ten cents on the dollar for their salvaged timber. The net loss to forest landowners is approximately $900 million, less an estimated basis of $100 million received in salvage payments, leaving a net $800 million. Using the timber crop disaster payment estimate of 25 percent loss, this would provide a $200 million cap under the proposed forestry CRP concept.

Mr. Chairman, again I thank you for this opportunity to appear before your committee. We have a long way to go before we fully recover from Hurricane Hugo, and our federal government should provide as much help as possible. Since it is obvious that current federal laws do not provide much help to tree farmers who suffer heavy losses during a disaster, please do all that you can to assist the victims of Hugo and future victims of other natural disasters.

End of Statement.

SUBCOMMITTEE ON FOREST, FAMILY FARMS, AND ENERGY

U.S. DEPARTMENT OF AGRICULTURE

by C.W. Umphlett

President

UMPHLETT LUMBER CO., INC.

Mister Chairman and Members of the Committee:

I am Calhoun W. Umphlett, President and General Manager of the Umphlett Lumber Co., Inc. of Moncks Corner, S.C., a small family owned business concern that has been in existence since the mid fifties.

In the last year and a half our company has experienced two major catastrophes. The first was a fire in February, 1988, which destroyed 75% of our production. The second was Hurricane Hugo on September 21, 1989. After the first catastrophe we built a new saw mill using the latest technology. This was completed in June of this year. The cost was in excess of $4,000,000.00. Financing was done with private monies; no federal, state, or county monies or bonds were involoved.

On July 3rd of this year production at this new mill was begun. Production is increasing towards our goal of 20,000,000 feet per year.

Hugo caused damages between $5-700,000.00 to our drying and planer operations and, also, destroyed a large part of our ~~timer~~ timber supply, mostly in the Francis Marion Forest.

We are convinced we can operate successfully in the future by extending our procurement area to approximately a 60 mile radius. In the past we have operated mainly within a 40 mile radius east of Moncks Corner.

It is our feeling that the timber damaged by Hugo will last approximately six months in the forest before insects, blue stain, and decay will render it unfit for saw timber. During this time we plan to utilize storm damaged timber for our operations and for building a log inventory. This inventory will carry us through a 6 to 8 month transition period. We estimate this period will last from May 1990-December 1990. This transition inventory will be kept under a water spray system which will protect the logs from insects, blue stain, and decay for 6 months or longer. After December 1990, we expect that normal timber sales will again begin to take place. The inventory financing will be repaid as the inventory is depleted, probably by December 1990.

Our future depends on obtaining low cost financing to store these logs. The cost of this inventory is estimated to be between $1-1,500,000.00.

We urge that you consider the following:

1. Make available to Small Business Lumber Manufacturing concerns low cost funds to carry them through this transition period.

2. Encourage the construction of U.S. Forest Service log storage areas.

3. Encourage United States Forest Service to defer timber payments until time of manufacturing.

I understand that deferment of payments is being currently being done on the West Coast or at least has been done in the past.

When our mill was in full production, prior to the fire, we employed 75 people, resulting in a payroll over $1,000,000.00 per year. In 1989, payments to businesses in Berkeley and Charleston counties for supplies, repairs, etc. were $1,250,000.00 in other South Carolina counties an additional $753,000.00. This totaled over $2,000,000.00 for the state.

I personally want to thank the Committee for giving me this opportunity to present this information to them.

Presentation by

Bartow S. Shaw, Jr.

for

HURRICANE HUGO TIMBER DAMAGE CONGRESSIONAL HEARING

Mr. Chairman and Members of the Delegation:

My name is Bo Shaw. I am a consulting forester with Shaw, McLeod, Belser, and Hurlbutt, and I have been providing forestry services for non-industrial, private forest landowners for the past 23 years. Our firm manages approximately 300,000 acres in ownerships of 10 acres to 40,000 acres from offices in Sumter, Walterboro, and Georgetown.

You are familiar with the estimates of total damages to timber and the estimates of probable salvage. While the total value of timber damage for non-industrial private landowners must rank near the top of South Carolina's uninsured losses for all time, a closer look at the many, many individual devastations better indicates the true magnitude of the disaster.

For example, we manage timberlands for several owners with after-salvage losses exceeding one million dollars each. Some of these, as well as many more who had much smaller holdings, made previous commitments for investment in timberland based on the ability of the property to generate enough cash return to combine with a portion of job income to make loan payments and reforest cutover areas. Loss of the ability of the property to produce cash income will certainly mean loss of the property.

We have several clients with very limited fixed incomes in the later years of their lives. That income previously included periodic harvesting of trees, but in most cases it also included taking part of that income for reforestation for future generations.

Many landowners have invested life savings in the planting of trees for retirement income. A high percentage of such cases in which we are involved has sustained damage which included broken trees rather than blown down intact. This adds to the value loss, and most of these retirees are now looking at salvaging one or two years of income rather than ten or twenty.

The summary of examples could continue, but I am sure you will hear of many.

Up to this point the landowner has taken the brunt of this timber disaster. The best case scenarios put overall salvage at 25 percent of volume and 10 percent of pre-Hugo value. Because the average private, non-industry timberland ownership in South Carolina is less than 100 acres, this category of ownership will likely be looking at even bleaker prospects. If these tree farmers are to maintain any sense of confidence in the forest products system to which they supply well over half of the raw material, both the forest industry sector and the public sector must take on a larger share of the burden.

While the industry has responded by diverting logging capability, securing rail cars, arranging for storage of logs and additional inventory of finished products, almost all of these activities have been done within the confines of allowable production costs dictated by corporate targets. If there was ever a time for the industry to show its interest in future timber resources being supplied by the non-industrial private landowner, it would seem to be now. An almost certain shortage

of pine sawtimber in the hurricane-affected area after 1990 would likely be an incentive for additional salvage and storage by the industry.

Although the non-industrial private landowners have a tremendous collective impact on the forest resource, individually it is very difficult to secure the magnitude of additional logging capability, to provide the volume of log storage, and to put in place the other means needed to make a significant impact. In my opinion the forest industry should expand its role by:

(1) voluntarily declaring a moratorium on company-owned land for at least two years on harvesting undamaged trees and trees from areas unaffected by Hugo when such harvesting affects those mills which can be economically supplied by damaged trees.

(2) providing incentives for loggers delivering material from areas on which a manageable residual stand of undamaged trees is being left.

(3) taking on a greater share of the risk of salvaging damaged timber through stronger commitments for logging tracts.

(4) looking beyond the present scope of assistance by further utilizing their regional and national systems to provide additional logging capacity, storage capacity, and other possible means of accomplishing a greater percentage of salvage, even to the extent that losses may occur on some operations.

Private, non-industrial landowners understand the basic

market reponses to supply and demand. In most cases, however, they are looking at all or almost all a total loss of a generation's input into providing forest resources of a significant portion of our state. It will take a new determination and commitment to develop that new resource, and these landowners are weighing the responses of the industry.

The public sector must respond as well. By not being included in any agricultural disaster programs, timberland has a unique exposure to such destruction and loss.

We all appreciate the efforts made by the South Carolina Congressional Delegation to provide assistance for the entire forestry community at this time. We recognize the difficulty in generating the support for relief for a small area of the country. All of the proposals developed thus far will certainly assist in easing the burden for the forest landowner.

It is my opinion that legislation should first address the immediate problems of salvage, loss of value, and loss of short term income. Reforestation surely must follow and attaching reforestation to any package certainly makes it more plausible. However, many smaller landowners eligible for reforestation assistance or even CRP-type assistance may not have the relatively-small percentage of out-of-pocket payment required to get into such a program unless the salvage needs and some assistance for loss of income are met. Another concern is the cost of reforestation. We have closely examined areas which have been salvage cut, especially those areas with uprooted stumps;

and we believe that the site preparation component of reforestation will easily be twice the normal cost. The estimated seventy-five percent unsalvaged timber will present additional preparation problems, both from the standpoint of mechanical preparation and of meeting voluntary smoke management guidelines. A twenty-five percent share of reforestation by the landowner could easily exceed $100 per acre, which may prove difficult for many.

I have worked particularly with Representative Spratt on the Tax Assistance Act, which was proposed as well by Senator Hollings. Raising the limit on casualty losses beyond basis and the "involuntary conversion" reinvestment in reforestation or mortgage debt payments will provide cash to the landowner without funding and with minimal tax revenue effect. The reforestation assistance proposals as well as other proposals by other members of the delegation offer assistance as well. I learned of the Mitchell-Dole amendment this past weekend, and the Forest Land Bank Program would particularly help provide the front-end needs through CRP-type payments. We feel an urgent need to move ahead with legislation that best meets the needs of those with losses and at the same time has a reasonable chance of passage with bipartisan support.

Finally, while the U.S. Forest Service sales have "gone begging" for the most part, the lowered minimum bids continue to be benchmarks which spill over to private timber transactions. At a time when we were negotiating sales for $85 to $125 per

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thousand board feet, the advertised minimums for the Forest Service were $65 to $75 per thousand; and they have been reduced to about half that for recent sales. The Francis Marion sales and private sales are of considerably varying characteristics with the marketplace obviously being influenced by logging restrictions, harvesting commitments, advance payments, and other such factors.

More recently the Forest Service has shown a commitment to seek supplemental means of aiding the salvage which will help reduce its effect on the marketing of privately-owned timber as well as increasing its ability to salvage more Forest Service timber through log storage and chipping operations. We suggest further expansion of that proposal to assure a minimum influence on private timber marketing by U.S. Forest Service sales.

I thank you for the opportunity to present these views. While they are my own, I have attempted to represent the interests of the tens of thousands of private landowners so devastatingly affected by Hurricane Hugo.

Working for the Nature of Tomorrow®

NATIONAL WILDLIFE FEDERATION (INC.)

Southeastern Natural Resources Center
1718 Peachtree Street, N.W., Suite 592, Atlanta, GA 30309
(404) 876-8733

COMMENTS OF THE NATIONAL WILDLIFE FEDERATION
ON IMPACTS OF HURRICANE HUGO
ON WILDLIFE
AND
FOREST RESOURCES

Presented before
the Subcommittee on Forests, Family Farms, and Energy
Committee on Agriculture
United States House of Representatives

By

Rudolph A. Rosen, Ph.D.
Director

Moncks Corner, South Carolina
November 6, 1989

Mr. Chairman, I am Rudolph Rosen, Director of the National Wildlife Federation's Southeastern Natural Resources Center located in Atlanta, Georgia. I am pleased to speak to you today on behalf of the National Wildlife Federation (NWF) about the impacts of Hurricane Hugo on wildlife and forest resources in the Francis Marion National Forest.

The NWF cares deeply about the management of our public forest resources. Our members are resource users who demand balanced and objective management of our forests by resource professionals. We are deeply concerned about the impacts of Hurricane Hugo and want to ensure that forest resources are restored as quickly as possible and in a manner that fully benefits wildlife and native plant communities.

Red-cockaded Woodpecker

Hurricane Hugo did much damage, as this committee well knows. People were hurt, property was damaged, lives were disrupted, and so on. The hurricane caused a staggering loss of standing timber, too. On the Francis Marion National Forest, about 100,000 acres of forest lands were devastated.

The Francis Marion National Forest is home to the world's most important population of the endangered red-cockaded woodpecker. The forest contained about a quarter of all known colonies of the birds, and was one of only three viable populations. Hugo severely damaged this population. Fortunately, there is still hope to save the birds. Congress must act now to ensure full and adequate funding to support emergency restoration and research programs designed to recover this once thriving population of endangered woodpeckers.

As background, the red-cockaded woodpecker is an endangered species that excavates cavities in large living pine trees. The birds live in colonies of about two to four or five birds each. Before Hugo, it was believed there were just over 2,000 active colonies in the world, of which about 500 were located on the Francis Marion National Forest.

Hugo destroyed all cavity trees in about half of the Francis Marion's colonies. All of the Forest's colonies have lost at least some cavity trees, and perhaps as many as 25% to 75% of all birds were killed by Hugo. However, surveys have found many birds alive, but most are desperately in need of shelter.

Action is underway to survey damage and to locate existing birds and remaining viable colonies. Experimental work has shown that artificial cavities can be constructed in living trees and that these replacement shelters will be used by the birds. The Forest Service has begun installing artificial cavities. However, much more needs to be done.

Survey and monitoring activities must continue. Longer term monitoring will need to begin early this spring during the breeding season and last through the summer to monitor artificial structures. Scientific analysis of the birds' adjustment to their new environment is essential to detect and avert problems. For example, many other cavity nesting species were displaced by Hugo. These species, such as the flying squirrel, other woodpeckers, and bluebirds, could compete with red-cockaded woodpeckers for cavity space. Under normal circumstances, the specialized nesting of the woodpecker would help isolate it from these competitors, but Hugo has changed the normal "rules." In addition, technical and administrative work to coordinate and facilitate emergency field operations and support these activities will be needed at the Atlanta Regional Office. In conducting restoration activities, the Forest Service should coordinate and cooperate with forest user groups such as the National Wildlife Federation and other agencies with responsibility for endangered species.

We believe the total budget for this work--the emergency essential restoration work--will be about $600,000 over the next 12 to 18 month period.

The National Wildlife Federation urges this committee to work with other committees and members of the South Carolina Congressional delegation to pass an emergency Hugo relief bill or supplemental appropriation package that includes an appropriation of $600,000 for endangered species recovery (emergency surveys, monitoring, research, and program management) on the Francis Marion National Forest.

We will be pleased to provide a listing of critical needs for the Committee's consideration and discuss these needs with Committee staff at the earliest possible time following this hearing.

Biodiversity

The massive land clearing wrought by Hugo has set the stage for large-scale timber salvage and reforestation. We already have reviewed the plan for salvage and find it well designed to help protect red-cockaded woodpecker. But, there is more that can and must be done for conservation of biodiversity on the Francis Marion than just restore endangered woodpeckers.

We must use the opportunity to restore to the Francis Marion the native and diverse vegetative communities that once existed on the forest. Most important is restoration of the longleaf pine forest, a forest type that historically extended in an unbroken band over extensive areas of all Southern coastal states. Portions of the Francis Marion historically were part of this longleaf pine forest.

By 1945, the original longleaf pine ecosystem had been reduced by one-third to one-half of its original acreage due to over-harvest, changes in burning frequency, grazing by feral hogs, and seedling disease. Conversion to agriculture and development also has taken great toll. From the mid 1950s through the mid 1970s, longleaf acreage declined an additional 25%. Today there may be as little as 12-14% of the original longleaf pine community remaining.

The longleaf pine forest and associated wiregrass understory, provides essential habitat to an unusually large number of rare and endangered species of plants. According to the Nature Conservancy Heritage Program criteria, 122 taxa of plants considered endangered or threatened are associated with longleaf-wiregrass ecosystems in the South. In addition, red-cockaded woodpecker reaches its highest

abundance in native longleaf pine. Restoration of longleaf pine will help achieve red-cockaded woodpecker goals and as well as goals to restore and preserve biological diversity. Part of the reason this forest type has become so rare is because longleaf pine is considered more difficult to regenerate than other pines, and commercial timber interests prefer the faster growing loblolly pine. Because so much of the South is in private ownership and managed as pine plantation, the longleaf pine has been replaced by other pines.

But there are other forest communities that also should be restored to the Francis Marion to provide for a maximum of wildlife and plant diversity, as well as production of harvestable timber. In general, site specific ecological evaluations should be conducted for each site proposed for reforestation. Reforestation targets and site preparation techniques should emphasize restoration of native forest community types. For example, in wet bottomlands it might be found that a predominance of hardwoods is preferred. Whereas on dry sites, where longleaf is not the historic native vegetative type, perhaps a loblolly pine-hardwood mix would be best.

It is likely that massive natural regeneration of loblolly will take place if nothing is done. Although this may be the preferred management option on some sites, we recommend active restoration of historic forest community types on managed sites.

As the South's extensive private forest lands are subjected to more intensive management and as these same woodlands give way to development due to population growth and economic pressures, the National Forests will increasingly become as islands in a sea of highly modified landscapes. The National Wildlife Federation believes that National Forests must provide recreation, wildlife habitat, aesthetics, and the other values that private lands simply cannot be expected to provide. High quality timber can continue to be produced and harvested on public lands, but it is time to shift focus from timber production to other forest resources and values. Thus, the goal of reforestation must go beyond just creating new "pine" plantations--reforestation must recreate and restore "natural" forest ecosystems.

The National Wildlife Federation recommends that reforestation emphasize restoration of historic native vegetative communities, with particular emphasis on restoring longleaf pine on all sites that historically were longleaf pine, and site preparation techniques should be designed to restore the natural understory vegetation typically associated with each forest type.

Mr. Chairman, thank you for inviting us to appear before this committee and discuss actions necessary to recover from Hurricane Hugo.

ADDENDUM
TO NATIONAL WILDLIFE FEDERATION COMMENTS

Photographs of impacts to red-cockaded woodpecker habitat and restoration techniques

Photograph Number	
1	Entrance to the Francis Marion National Forest, scene of hurricane damage.
2	Standing red-cockaded woodpecker cavity tree, arrow points to cavity.
3	Damaged red-cockaded woodpecker cavity trees, arrows point to cavity locations.
4	Fallen red-cockaded woodpecker cavity.
5	Dr. Robert Hooper, U.S. Forest Service red-cockaded woodpecker researcher, holding artificial cavity.
6	Artificial cavity insert.
7	Technician climbing tree in preparation for inserting artificial cavity.
8	Technician beginning insert cut in standing live tree.
9	Cutting of hole for insert of artificial cavity.
10	Beginning insert of artificial cavity.
11	Final fitting of artificial cavity into standing live tree.

Photo 1

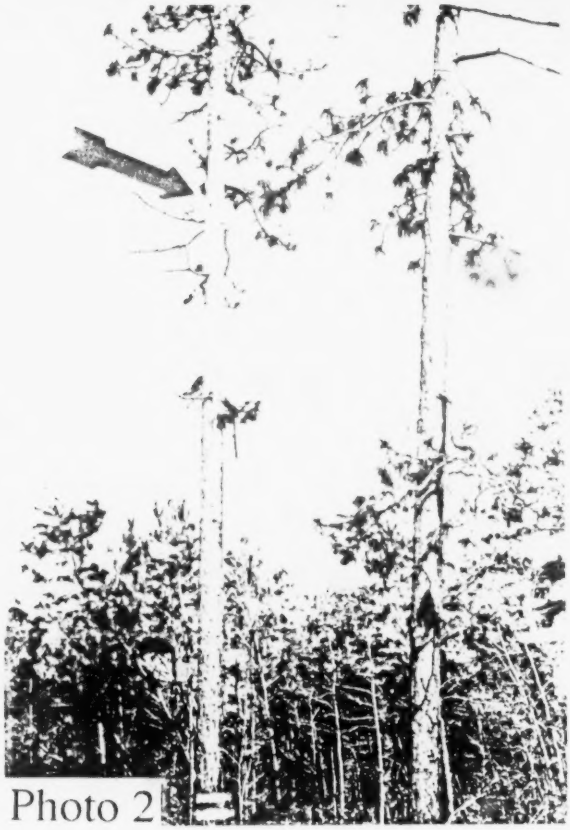

Photo 2

Photo 3

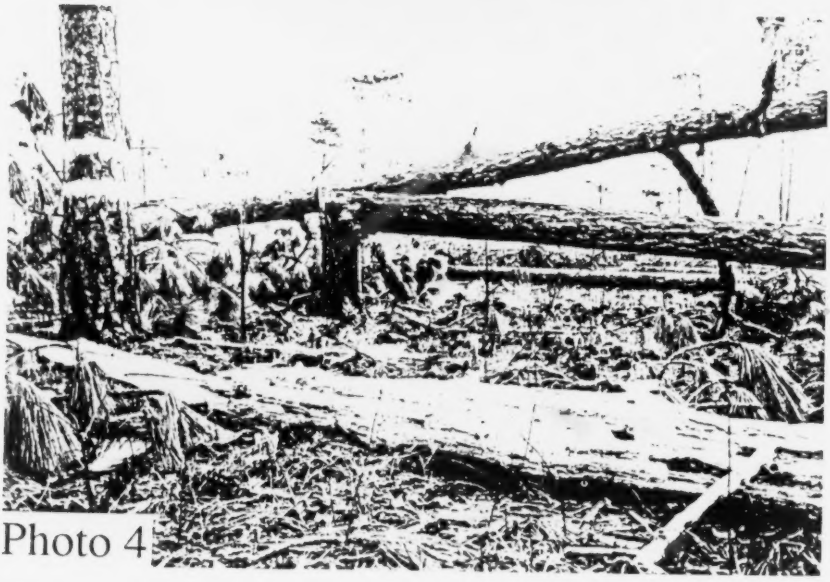

Photo 4

Photo 5

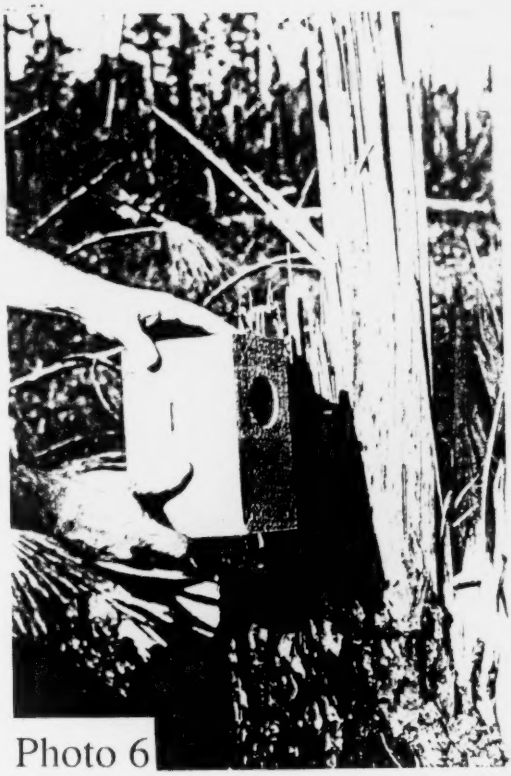

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

South Carolina Forestry Commission

P.O. Box [illegible] Columbia, S.C. 29211 (803) 737-8800

Ladies and Gentlemen let me begin by saying that I appreciate this opportunity to come before you and express a real concern that not only I'm feeling but that many many of the citizens and residents of Berkeley County are feeling.

When I left this very room the morning after the storm and walked outside I went into a completely new Berkeley County. I faced a situation that I really never thought I would see. Our whole environment is changed. For the past several years it has been our responsibility to control and contain the wild fires that occur every season in our county. Based on our past records we know that we're going to have somewhere around 500 wildfires this year. Due to our past history of burning for grazing, opening the woods for hunting we know what we can expect.

I've been real proud of our organization, we've always been able to take our small dozers, equipped with fire plows, go in the woods and suppress these fires. It's a rare occasion when we lose a home. Both of these have changed. Currently we are entering into our fire season. If a fire starts today, I don't have the capability with the people and equipment that we have to go into the woods and put the fire out. I guess what I want to say to you folks today is that I need your help.

If we could just trade sides of the table for just a day where you fellows had the opportunity to go into the woods and see this mess, this jumble of trees I think it would be a lot easier for you to realize where I'm coming from. I'm here to make an appeal to you that we need some assistance.

I'm not here to make that appeal on my behalf but I want to make that appeal on behalf of every citizen that lives in Berkeley County.

In the past, our high priority has been saving young pine plantations, protect those young trees. Those days have changed. We're now looking at losing people's homes, people's lives, not to mention people's forest. All these other requests are well founded, well justified, but unless we receive some new equipment, some modern equipment, updated equipment and some additional man power we don't have that capability.

I'm here to make that appeal for every tree that's left standing in Berkeley County. It's become more and more important to protect what we have left, especially those young plantations. If I'm denied access into the woods, I assure you they are going to burn.

I'm here to make that appeal for your kids and my kids. Unless we have the capability to protect and reforest this county our children will never ever see the beautiful bountiful Berkeley County we had on the 21st day of September. I appreciate your time.

November 6, 1989
Mike Maggard
Berkeley County Ranger

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EAST BROAD STREET POST OFFICE BOX 218
HEMINGWAY SOUTH CAROLINA 29554

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WILLIAM H CHANDLER
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JEROME P ASKINS, JR (1923 -1981)

(803) 558-2598
(803) 558-3234

November 16, 1989

Hon. Harold L. Volkmer
Chairman, Subcommittee on Forest
Family Farms and Energy
Committee on Agriculture
1301 Longworth Bldg.
Washington, DC 20515

Dear Sir:

The timber loss in South Carolina as the result of Hurricane Hugo was monumental and indeed tragic. It has marred the face of South Carolina for much longer than my lifetime and has caused much more actual loss than any of us are able to appreciate. I am especially concerned for the small family farm. I believe it is essential to create a special casualty loss for Hugo damage which would operate on behalf of the tax payer regardless of basis. Many owners of small family farms do not have sufficient basis to cover the loss and under present legislation have no relief for hurricane damage.

I am also shocked at the actual prices being paid for timber throughout our area. Most timber is being sold for chip and saw and the best price going in this area is $10.00 per ton. I don't know what can be done about this matter. Perhaps timber companies need to be investigated or perhaps there needs to be a government support price for timber sold as a result of hurricane damage. So many people have already sold timber at such low prices that there may be no help for them.

I would also hope to see major help for reforestation by private landowners. This will certainly encourage the regeneration of pine but I recognize that hardwood tracts were epecially hard hit by the storm. Perhaps te Department of Agriculture or agricultural related colleges could provide recommendations about reforestation efforts in hardwood or low-lying areas.

Thank you for your interest in this area. Your interest and support are greatly appreciated and I hope that Congress can provide support for the family farm in response to this dramatic disaster.

Sincerely,

William H. Chandler

COMMENTS TO AGRICULTURAL SUBCOMMITTEE
MONCKS CORNER, SOUTH CAROLINA
NOVEMBER 6, 1989

I AM LYNN Z. DANTZLER, PRESIDENT OF EDISTO FARM CREDIT SERVICE, OF ORANGEBURG, S. C. MY COMMENTS TODAY ARE FROM TWO PERSPECTIVES. I LIVE ON A FAMILY FARM LOCATED IN LOWER ORANGEBURG COUNTY AND OPERATED BY MY FATHER, W.Z. DANTZLER, AND MY BROTHER, WALTER L. DANTZLER. WHILE THE FARM IS A DIVERSIFIED OPERATION THAT PRODUCES WHEAT, OATS, CORN, SOYBEANS, HAY, SWEET POTATOES, BEEF CATTLE, AND HOGS, TIMBER PRODUCTION ALSO PLAYS A MAJOR ROLE.

THE FAMILY-OWNED TIMBERLAND, PRIMARILY PINE BUT ALSO INCLUDING HARDWOODS, RANGES FROM PLANTED PINES LESS THAN 10 YEARS OLD TO MATURE PINE SAWTIMBER READY FOR HARVEST. THROUGH SELECTIVE CUTTING, PLANNED REFORESTATION, AND PROPER FOREST MANAGEMENT, MY FAMILY HAD ESTABLISHED BEAUTIFUL PINE FORESTS THAT SUPPORTED A WIDE RANGE OF WILDLIFE WHILE ALSO PRODUCING QUALITY PINE TIMBER THAT COULD BE HARVESTED AND SOLD AS MARKETS AND ECONOMIC NEED DICTATED.

THE GROWING TIMBER PROVIDED A FINANCIAL SAFETY NET DURING RECENT YEARS OF REDUCED FARM INCOME DUE TO DROUGHT OR LOWER COMMODITY PRICES. THE TIMBER WAS ALSO CONSIDERED TO BE SOMEWHAT OF A SAVINGS ACCOUNT FOR FUTURE FAMILY NEEDS, INCLUDING THE COLLEGE EDUCATION OF MY BROTHER'S THREE SONS.

THE PREVIOUSLY RECOGNIZED RISKS OF FORESTRY PRODUCTION - FOREST FIRES AND ICE STORMS - LED US TO BELIEVE THAT TIMBER PRODUCTION WAS A RELATIVELY LOW RISK VENTURE WHEN PRACTICES LIKE FIRE BREAKS AND CONTROLLED BURNING WERE USED. HURRICANE HUGO VERY RUDELY BROUGHT ANOTHER UNEXPECTED RISK TO OUR ATTENTION.

THE 100 MPH PLUS TORNADO-LIKE WINDS THAT WHIPPED OUR AREA BROUGHT MAJOR DAMAGE TO THE LARGE PINES IN OUR FORESTS. TREES UP TO 24" IN DIAMETER WERE TWISTED AND SNAPPED AT INDISCRIMINATE HEIGHTS, DOWNING AN ESTIMATED $100,000 WORTH OF PINE SAWTIMBER. BECAUSE OF THE DAMAGE TO THE TREES THAT WERE DOWNED, THE ENSUING WET WEATHER THAT HAMPERED SALVAGE OPERATIONS, AND THE PRECIPITOUS DROP IN PRICES DUE TO THE SUDDEN OVERSUPPLY OF PINE, IT NOW APPEARS THAT THE DAMAGED TIMBER WILL PRODUCE LESS THAN $25,000 IN REVENUE. WITH LIMITED TAX BASIS FOR THE AFFECTED ACREAGE, EVEN THIS REDUCED REVENUE WILL BE TAXED AS ORDINARY INCOME.

MY OTHER PERSPECTIVE ON THE HUGO-RELATED TIMBER DAMAGE IS FROM THE VIEWPOINT OF A LENDER. I AM CHIEF EXECUTIVE OFFICER OF EDISTO FARM CREDIT SERVICE, REPRESENTING TWO ASSOCIATIONS THAT ARE PART OF THE FARM CREDIT SYSTEM SERVING SOME 3000 FARMER BORROWERS IN TWELVE LOWCOUNTRY COUNTIES OF SOUTH CAROLINA. OUR SERVICE AREA INCLUDES CHARLESTON, BERKELEY, DORCHESTER, ORANGEBURG, AND CALHOUN COUNTIES, ALL OF WHICH SUFFERED MAJOR HURRICANE DAMAGE AND WERE DECLARED DISASTER COUNTIES.

OUR LOAN PORTFOLIO INCLUDES OVER $60 MILLION DOLLARS IN TIMBER LOANS, AND PRIOR TO HUGO, WE CONSIDERED THESE LOANS TO BE AMONG THE LOWEST RISK LOANS IN OUR PORTFOLIO. OUR INVESTIGATIONS SUBSEQUENT TO HUGO REVEAL SEVERAL TIMBER LOANS THAT SUFFERED DAMAGE TO MORE THAN 90% OF THE TIMBER, WITH DAMAGE TO SEVERAL INDIVIDUAL LARGE FARMS EXCEEDING $1 MILLION TO PREVIOUSLY HIGH QUALITY TIMBER.

ACCORDING TO ESTIMATES PROVIDED BY CLEMSON UNIVERSITY'S SCHOOL OF FORESTRY, OUR TWELVE COUNTY SERVICE AREA HAD TIMBER VALUED AT $478.1 MILLION DAMAGED BY HUGO. WHILE AREAS OF DOWNED TIMBER ARE BEING AGGRESSIVELY HARVESTED FOR SALVAGE, MUCH LOWER PRICES ARE BEING RECEIVED BY LANDOWNERS BECAUSE OF DOWNGRADING TO LOWER VALUED PULPWOOD AND CHIP-N-SAW PRODUCTS. THIS DOWNGRADING RESULTS FROM TORQUE INDUCED DAMAGE TO THE FIBER STRUCTURE OF THE LOG AND FROM BLUE STAIN BECOMING INCREASINGLY EVIDENT AS LOGS WEATHER ON THE GROUND IN THE FORESTS AWAITING SALVAGE.

IT IS OBVIOUS TO ME THAT HURRICANE HUGO, A MAJOR NATURAL DISASTER, HAS BROUGHT VERY ADVERSE, LONG-TERM CONSEQUENCES TO TIMBER PRODUCERS IN THE AFFECTED AREAS. I COMMEND REPRESENTATIVE TALLON AND OTHERS FOR THEIR PROMPT INTRODUCTION OF LEGISLATION TO ESTABLISH A COST SHARING PROGRAM TO HELP OFFSET THE MAJOR COSTS OF CLEARING AND REFORESTATION.

THIS TYPE OF ASSISTANCE IS CRUCIAL AND ESSENTIAL TO THE RECOVERY OF THE FORESTRY PRODUCTION INDUSTRY IN PARTS OF SOUTH CAROLINA. CERTAINLY THE LARGE TIMBER COMPANIES AND PLANTATION OWNERS SUFFERED MAJOR DAMAGE, BUT MY PRIMARY CONCERN IS FOR THE INDIVIDUAL FARMERS AND TIMBERLAND OWNERS WHO NEED AND DESERVE SOME GOVERNMENT ASSISTANCE IN RESPONSE TO THE DEVASTATION LEFT BY HUGO.

I URGE THE SUBCOMMITTEE TO TAKE PROMPT ACTION TO ENSURE THAT THE ASSISTANCE ENVISIONED BY REPRESENTATIVE TALLON'S BILL IS FORTHCOMING.

Berkeley Soil & Water Conservation District

223 N. Live Oak Drive
Moncks Corner, SC 29461
(803) 761-8339
723-3800 Charleston
567-3136 St. Stephen

J. CHALMERS DIAL
Chairman
E.H. CAUSEY, SR.
Vice-Chairman
H.H. HARVEY, JR.
Treasurer
LARRY WYNDHAM
Commissioner
C. DAVID UMPHLETT, JR.
Commissioner
T.E. JOHNSTON
Assoc. Commissioner
REV. GENE COUCH
District Chaplain

The Soil Conservation Service is busy now removing debris from clogged streams in high denisty areas where there might be a possiblity of loss of life. The Soil Conservation service needs to be adquately funded under the Emergencey Watershed Program to release flood damage in timber lands, this would assist in harvesting of down timber. This excess water will also compound the problems on that it will have an adverse effect and may kill existing timber which we certainly do not want to do. By adquately funding these programs we will be able to ensure that these now blocked streams will be opened and that they will continue to flow; reduce additional damage to existing standing timber; reduce the hazard to access where this down timber can be removed. We also need to work with the U.S. Forest Service in working and removing debris from these streams.

I would like to express my appreciation to the Soil Conservation Service working with the Berkeley Soil & Water Conservation District on what we have accomplished and I would like to give you a EWP update which was sent to every county in S.C.

J. Chalmers Dial

Berkeley Soil & Water Conservation District

Hurricane Hugo EWP Update
For SCS Employees

U.S. Soil Conservation Service — October 31, 1989

Berkeley S&WCD Makes A Difference

The Berkeley District worked with the Red Cross in Charleston, which was the major organization for disaster relief for most counties in the area. The district arranged for tractor trailer trucks to shuttle supplies from warehouses to the distribution site. This was done by personal contact with company owners and area wide public service announcements over radio and television.

The District office served as an operation center for the district, SCS and SCLRCC to coordinate a variety of activities. Some of these included information dissemination, receipt and storage of supplies, distribution of emergency relief supplies and media contacts.

Several semi truckloads of food, water, clothing and building materials were obtained and distributed by the district to area churches, civic centers and relief offices. Also, over 3000 cases of baby formula were distributed.

Live broadcasts from the district office were made by the Laurinburg, North Carolina radio station WEWO. The station sponsored a donation drive for supplies. This resulted in several truckloads of goods, which were coordinated through the district office.

Berkeley District Chairman J. Chalmers Dial organized the warehousing of many loads of supplies for Berkeley County that were received from throughout the nation. District Commissioner Larry Wyndham coordinated volunteer services of heavy equipment to clear debris from roads and homes throughout the county.

The District is working with the Berkeley County School District and other state, federal and private agencies to celebrate Arbor Day in an attempt to begin erasing the widespread damage caused by Hurricane Hugo. The District is trying to secure a variety of trees which will be given to the county schools so that each student (approximately 27,000) will be able to plant a tree at home or school. They are also hoping to have some ornamentals and mast bearing varieties available for individuals and small farms. So far trees have been acquired from the S. C. Forestry Commission, Westvaco, Warren County Nursery in Tennessee, Boyd Nursery in Tennessee and Forest Keeling Nursery in Missouri. These trees will help to restore the beauty and wildlife habitats destroyed by the hurricane.

A sponsor program is being organized in which donating merchants and private businesses will be able to display a green ribbon to show their participation. Trees planted through the program also will be marked with a green ribbon.

If any individual or company is interested in participating in the program, contact the Berkeley Soil and Water Conservation District at (803) 761-8339.

The district also wishes to thank the Soil Conservation Service and its employees for the assistance they have provided.

Provided By The Moncks Corner Field Office

Summerville EWP Project Office
107 South Main Street
Summerville, South Carolina 29483
(803) 281-6118
(803) 281-6119 Fax

The office will be fully operational on Friday, November 3.

Statement to
House Agriculture Committee
Subcommittee on Forests, Family Farms and Energy
Public Hearing - Moncks Corner, South Carolina

by
A. C. Edwards
Regional Vice-President
Forest Farmers Association

November 6, 1989

Mr. Chairman, distinguished committee members, my name is A. C. Edwards. I am the Wood Procurement Manager for Westvaco Corporation, but I'm here today as Regional Vice President of Forest Farmers Association, an association of private timberland owners concentrated in 15 southern states, including the Carolinas. Our members own or manage some 40 million acres of timberland. The 516 members in South and North Carolina own and manage over a million acres of timberland.

My statement is directed toward the "Hugo Forestry Restoration Act" and its benefits to private timberland owners whose lands were devastated by Hurricane Hugo.

As you know, Hurricane Hugo came ashore at Charleston, South Carolina on September 22, 1989 cutting a path over 100 miles wide deep into the heart of the Southern "woodbasket." In its wake, Hugo left behind devastation to a degree never dreamed of by the Carolinas' timberland owners.

In South Carolina, estimated sawtimber volume damaged was over 6.7 billion board feet -- some three times the normal sawtimber harvested annually in the state. Approximately 36 percent of South Carolina's total 12.2 million acres of forested land was damaged by Hugo. A total of 23 counties in South Carolina have significant timber damage from the storm; seven of those counties are classified as extensively damaged.

The damage in North Carolina is less extensive, but still overwhelming. Some 3.0 billion board feet of sawtimber was damaged - one and one quarter times the typical annual sawtimber harvest in the state. In the 26 North Carolina counties with significant damage, approximately 15 percent of the state's 18.5 million acres of forest land was damaged.

The forest industry is the third largest manufacturing industry in South Carolina, contributing $4.3 billion annually to the state's economy and providing employment for over 30,000 people. In North Carolina, the forest industry is similarly important, ranking second among manufacturing industries. Clearly, damage to the forest resource of these two states is damage to the entire economy- to all their citizens.

Forestry is a long-term investment requiring 20 to 30 years before any financial return can be expected. Within the damaged area, only a small portion, perhaps 20 to 25 percent, of the damaged timber can be salvaged. Because it will be very expensive to harvest this timber, landowners will recover an even smaller portion of the value. Many will not get any timber cut in time, and will receive nothing.

In both North and South Carolina, over two-thirds of the timberland is owned by non-industrial private landowners. These forest farmers view their timber as a bank account- a bank account that cleans the air, provides habitat for wildlife, and contributes to the quality of life in their community. They hold their timber for various uses: to educate their children, build a house, for emergencies or to provide for a more comfortable retirement. In one fell swoop, Hugo took that all away from them. Their bank account- the timber stand that has been so important to the community- is not covered by federal deposit insurance. What Hugo took is gone for good. In fact, they will be able to claim only a small portion of their losses on their income taxes.

It is important to all of us that these landowners choose to invest in the future- choose to reforest their damaged timberland. Not only are they reeling from a catastrophic loss of capital, but they are faced with unusually difficult and expensive reforestation challenges. In South Carolina alone, 1.3 million acres of land need reforestation due to Hugo. Some 680,000 acres of that are owned by non-industrial private landowners. To actually reforest all those acres could easily require an investment on the part of small landowners of over $200 million. In the absence of reforestation, we could see these lands permanently removed from forestry use.

After seeing a lifetime's investment destroyed in minutes, many forest farmers will need some incentive to reforest. Mr. Chairman, the Hugo Forestry Restoration Act could provide that incentive, if cost share payments are set high enough. I would encourage you to increase those levels to 90 percent for landowners owning less than 1000 acres of timber, and 65 percent for others. Cost share assistance at appropriate levels can go a long way toward restoring some of the damage done by Hugo, toward rebuilding our environment and our future.

Mr. Chairman, I want to thank you and your committee members for coming to South Carolina to see firsthand the problems we encounter. Your support of this bill to assist timber growers in South Carolina is appreciated and if you have any questions, I will be glad to try to answer them.

ACE:mhw
11/3/89

U.S. House of Representatives
Committee on Agriculture
Subcommittee on Forestry
Longworth Building
Washington, D.C. 20515

Since I was unable to speak at the Public Field Hearing in Moncks Corner, South Carolina on November 6, 1989, I would like to make the following statement for the record.

My name is James L. Guy and I live in Kershaw County which was along the destructive path of Hurricane Hugo.

I am a third-generation tree farmer and my primary crop is hardwood timber. The difference between my farm and one that grows annual crops is that it takes 35 to 60 years to get my product to market. Also, I have no crop damage insurance and the government does not pay me a subsidy.

As have many South Carolinians, I have suffered severe economic loss due to Hugo. The estimate of collecting 10% of pre-Hugo value appears to be accurate in my case. Since the regeneration of hardwood land is mostly a natural process, funds for regeneration will be of little use to me.

In listening to the subcommittee at the hearing, the problem with the proposed legislation appears to be that the Ways and Means Committee is concerned with proper assessments of pre-Hugo values. I feel the solution would be to exempt capital gains taxes (28%) on money received in 1989 and 1990 for sale of damaged timber. The purchaser of the timber could simply sign an affidavit certifying that what he bought was damaged timber. At the end of 1990, the situation could be reviewed and the exemption either extended or cancelled as the situation warrants. If I am only getting 10 cents on the dollar for my crop, it looks like I could keep the 2.8 cents that would normally go to taxes.

When the final chapter has been written about Hurricane Hugo and its effect on South Carolina, it will say that tourism has recovered; communities have recovered; power companies have recovered; streets and highways have recovered. I am not sure the same will be said about the timber industry.

James L. Guy

James L. Guy
215 Stockton Road
Rembert, South Carolina 29128
November 9, 1989

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House Agriculture Subcommittee
on Forests, Family Farms and Energy
Rep. Harold L. Volkmer, Chairman

Mr. Chairman, members of the committee, ladies and gentlemen; I am Jon Liles of Walterboro, SC. I speak to you today wearing three hats.

First, I am a consulting forester, a private businessman whose livelihood depends upon the forest economy of the lowcountry, our state and our nation.

Second, I come to you as second vice-president of the Association of Consulting Foresters, the national organization of consultants dedicated to promoting public health and welfare through the practice of professional forestry.

Third, I speak to you today as a professional forester with an intimate knowledge of landowners' forests, objectives and problems. I work with these stewards of our land on a daily basis, assisting them in making decisions which meet their objectives of ownership without exploiting the resource.

Most of our family farms here in SC have all of the tillable land under row-crop cultivation. The low, wet areas are in trees, both pine and hardwoods. These forests usually comprise 30 to 40% of the farm. Historically, the farmers have used these forests as a back-up for their farm economy. The timber was sold to keep the wolf from the door during lean times.

The past 10 years have been lean for our farmers. Many have had to rely upon timber to survive and to hold on to the farm. A lot of them didn't have enough timber to make it, but the good stewards of the land still had a bank account of trees to help make it through these bleak years of high costs and low prices.

And then came Hugo!

When daylight finally arrived on September 22nd, our farmers could hardly recognize their own farms. Outbuildings were gone, beans and cotton flat and their timber on the ground. Hugo had flattened about 3/4 of a billion dollars worth of pine and hardwood timber belonging to our farmers and other individuals here in SC. Their reserve timber "bank account" was on the ground. And I predict that on September 22 of 1990, 90% of that timber will still be on the ground. Our Forest Disaster Salvage Council,

loggers, industry and consulting foresters are doing a magnificent job in trying to salvage as much as possible, but none of us can put the broken timber back together, nor do we have tractors that can walk on water. The timber will be lost.

Hugo wreaked havoc over several thousand square miles of SC. Thousands of families lost most of their possessions. Our towns, cities and roads were in deplorable condition. However, the government-subsidized flood insurance will replace many beachfront homes; FEMA is cleaning up our towns and cities; our highway department has done a great job of clearing the roads; the public utilities performed five years' work in three weeks; ASCS and crop insurance will help with the bean and cotton crops; but the farmers' and other individuals' timber will be a total loss - UNLESS our national leaders respond with some assistance.

Before the House Ways and Means Committee right now is a Hugo Tax Assistance Act which would provide significant immediate relief to our farmers and other landowners. This bill would allow timber owners a casualty deduction based upon the fair market value of their timber rather than the current allowance of adjusted basis value. Many landowners, family farmers in particular, have little or no basis in their land and timber since it has been in the family for decades.

I talked with a farmer last Friday whose family owns a 350-acre farm with 200 acres in row crops. His cotton is a 75% loss, but crop insurance will help. He will get 75% of his beans in the bins. The corn was harvested before Hugo. However, he has $30,000 worth of timber on the ground in the branches, flats and ponds, too wet to even think of salvaging. The farm was inherited about 15 years ago, thus his basis in the timber would be about $5,000. The current law would benefit this farmer about $500, hardly enough to warrant an appraisal and the paperwork. However, the proposed Assistance Act would give him a tax break of 4-5 thousand dollars. Not much, but maybe enough to keep him interested in growing trees.

This Tax Assistance Act would "cost" the U.S. Government less than 100 million dollars. It would be in the form of a reduction in tax revenue based upon the individuals' marginal tax rate and loss rather than as an outright grant. The financial relief would be immediate and in my opinion, a real shot-in-the-arm for restoring confidence in tree farming.

The Hugo Forestry Restoration Act, designed to provide cost-share money for reforestation is a good idea. However, landowners are not interested in planting trees right now. Their conservation spirits are shot-to-hell. They don't want a tree large enough to blow into their house or field. Hopefully, in a year or so their attitudes will change.

I want to encourage you as members of Congress with a special interest in our family farms to help us by promoting the Tax Assistance Act. Let's get some immediate financial relief and then start working on restoring interests in planting trees.

Thank you.

Jon P. Liles, ACF
November 6, 1989